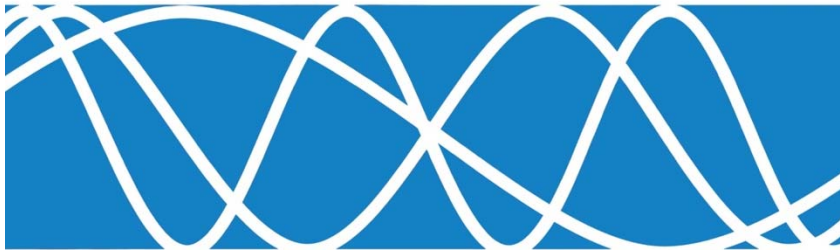


Noise Feasibility Study

**Proposed Residential
Development, Condo Block 84
York Rd and Concession 7 Rd
Niagara-on-the-Lake, ON**

May 28, 2025
HGC Project #: 02200487



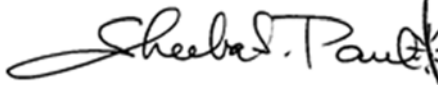
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Version Control
Noise Feasibility Study,
Condo Block 84,
NOTL, Ontario.

Ver.	Date	Version Description	Prepared By
1.0	DRAFT	Noise Feasibility Study update in response to Region of Niagara comments	S.Paul
2.0	FINAL	Noise Feasibility Study update in response to Region of Niagara comments	S.Paul

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Table of Contents

1	INTRODUCTION AND SUMMARY	1
2	SITE DESCRIPTION AND NOISE SOURCES	2
3	ROAD TRAFFIC NOISE ASSESSMENT.....	3
3.1	Traffic Noise Criteria	3
3.2	Road Traffic Data.....	4
3.3	Traffic Noise Predictions	5
3.4	Traffic Noise Recommendations	6
3.4.1	Outdoor Living Areas.....	6
3.4.2	Indoor Living Areas and Ventilation Requirements	6
3.4.3	Building Façade Constructions	7
4	WARNING CLAUSES	7
5	STATIONARY SOURCE ASSESSMENT.....	8
5.1	Criteria Governing Stationary Noise Sources.....	8
5.2	Stationary Noise Source Assessment	8
5.3	Assessment Results	10
6	SUMMARY OF RECOMMENDATIONS	11
6.1	Implementation.....	13



Figure 1 – Key Plan

Figure 2a – Site Plan 1

Figure 2b – Site Plan 2 showing Prediction Locations

Figure 3 – Site Plan 2 Showing Ventilation Requirements

Figure 4 – Dust Collector Measurement Location

Figure 5 – Daytime Sound Levels at the Proposed Development

Figure 6 – Townhouse Blocks Requiring Mitigation Measures in the form of Architectural Design of Dwellings

Appendix A – Road Traffic Data

Appendix B – Sample Stamson Output

Appendix C – Region Comments and HGC Engineering's Responses

Appendix D – Architectural Drawings, Markup Notes and Drawings Indicating Architectural Mitigation Measures



1 INTRODUCTION AND SUMMARY

HGC Engineering was retained by Marz Homes to conduct a noise feasibility study update for a Condominium Block (Block 84) development in Niagara-on-the-Lake, Ontario. This project is at York Road and Concession Road 7 in Niagara-on-the-Lake, Ontario. The purpose of this study is to determine the impact of environmental noise from the surrounding roadways and stationary noise on the proposed site and to determine the required acoustic requirements in accordance with the Ministry of Environment, Conservation, and Parks (MECP) guidelines, Niagara Region, and the Town of Niagara-on-the-Lake. This study has been prepared as part of the approval process by the municipality.

This report has been updated to reflect the comments provided by the Region of Niagara in the Pre-Con notes dated November 21, 2024 provided in Appendix C. This noise study address Condo Block 84 only. The latest site plans for Condo Block 84 are included as Figures 2a and 2b. Recommended architectural mitigation measures are included in the drawings for the townhouse blocks as included in Appendix D.

The primary noise sources of noise were determined to be the road traffic on York Road and Concession Road 7. Road traffic data was obtained from the Region of Niagara. The data was used to predicted sound levels at the future dwelling facades and in potential outdoor living areas. All road traffic noise predictions were compared with the guidelines detailed by the MECP.

The results of the study indicate that it is feasible to achieve the MECP sound level guidelines at the proposed residential development. The sound level predictions indicate that the future traffic sound levels have the potential to exceed MECP guidelines at the dwellings fronting onto and with direct exposure to Concession 7 Road. These dwellings should be designed with a provision for the installation of central air conditioning in the future, at the occupant's discretion. The MECP guidelines recommend that noise warning clauses be used to inform future residents of the traffic noise impacts and sound level excesses.

Any building construction meeting the minimum requirements of the Ontario Building Code will provide sufficient acoustical insulation for all the proposed dwelling units in the subdivision.

Architectural drawings have been provided and reviewed for those blocks with impact due to stationary noise, specifically due to Del Priore Custom Kitchen's dust collector.

2 SITE DESCRIPTION AND NOISE SOURCES

The key plan for the site is attached as Figure 1. The site is located northwest of the intersection at York Road and Concession 7 Road.

A site plan (Site Plan 1) for Modero Estates Condo Block 84 prepared by Upper Canada Consultants dated 2025-03-28 is included as Figure 2a. A site plan (Site Plan 2) for Modero Estates Condo Block 84 prepared by Upper Canada Consultants dated 25-03-28 is included as Figure 2b and includes prediction locations. The proposed development includes blocks for townhouses, back to back, dual frontage, and traditional townhouses, along with at grade parking and roadways.

The acoustical environment surrounding the site is semi-urban in nature. There are existing residences on the east and west sides of Concession 7. There is a wooded area approximately 200 m in depth to the west of the subject site. West of the wooded area include a large building under construction which appears to be a church, a government building and other businesses that are too far in distance from the subject site to have any noise impact.

To the south of the site are two uses: an existing church, Lifepoint Bible Church and Del Priore Custom Kitchens. Del Priore Custom Kitchens has two small loading areas and a tall dust collector that was in operation during the site visit. A sound level measurement was performed at approximately the southern property line of the subject site. The dust collector was measured at 62 dBA. Since the details of the location of the future dwellings are known for the lands

closest to and to the north of the Del Priore dust collector, a detailed analysis has been completed in Section 6, and the acoustic requirements have been refined.

There are no other significant stationary sources of noise within 500 m of this site.

3 ROAD TRAFFIC NOISE ASSESSMENT

3.1 Traffic Noise Criteria

Guidelines for acceptable levels of road traffic noise impacting residential developments are given in the MECP NPC-300, "Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning", release date October 21, 2013 and are listed in Table I below. The values in Table I are energy equivalent (average) sound levels [L_{EQ}] in units of A-weighted decibels [dBA].

Table 1: MECP Traffic Noise Criteria [dBA]

Space	Daytime L_{EQ} (16 hour)	Nighttime L_{EQ} (8 hour)
Outdoor Living Areas	55 dBA	--
Inside Living/Dining Rooms	45 dBA	45 dBA
Inside Bedrooms	45 dBA	40 dBA

Daytime refers to the period between 07:00 and 23:00, while nighttime refers to the period between 23:00 and 07:00. The term "Outdoor Living Area" (OLA) is used in reference to an outdoor patio, a backyard, a terrace or other area where passive recreation is expected to occur. Balconies and terraces that are less than 4 m in depth are not considered to be outdoor living areas under MECP guidelines.

The guidelines in the MECP publication allow the daytime sound levels in an Outdoor Living Area to be exceeded by up to 5 dBA, without mitigation, if warning clauses are placed in the purchase and rental agreements to the

property. Where OLA sound levels exceed 60 dBA, physical mitigation is required to reduce the OLA sound level to below 60 dBA and as close to 55 dBA as technically, economically and administratively feasible.

A central air conditioning system as an alternative means of ventilation to open windows is required for dwellings where nighttime sound levels outside bedroom/living/dining room windows exceed 60 dBA or daytime sound levels outside bedroom/living/dining room windows exceed 65 dBA. If the sound level in the plane of a bedroom or living/dining room window is greater than 55 dBA and less than or equal to 65 dBA, the dwelling should be designed with a provision for the installation of central air conditioning in the future, at the occupant's discretion.

Building components such as walls, windows and doors must be designed to achieve indoor sound level criteria when the plane of bedroom/living/dining room window nighttime sound level is greater than 60 dBA or the daytime sound level is greater than 65 dBA due to road traffic noise.

Warning clauses are required to notify future residents of possible excesses when nighttime sound levels exceed 50 dBA at the plane of the bedroom/living/dining room window and daytime sound levels exceed 55 dBA in the outdoor living area and at the plane of the bedroom/living/dining room window due to road traffic.

3.2 Road Traffic Data

Road traffic data was obtained from the Region of Niagara. The higher volumes were used in the noise analysis and all data was grown to 2045 as per the Region of Niagara policy for Regional roadways. The data is provided in Appendix A.

Future annual average daily traffic (AADT) of 17 494 vehicles per day was applied for York Road and 1 954 vehicles per day was applied for Concession 7 Road. Commercial vehicles percentages of 2% for medium trucks and 1.5% for heavy trucks were used in the analysis for York Road. Commercial vehicles

percentages of 9% for medium trucks and 15% for heavy trucks were used in the analysis for Concession 7 Road. A posted speed of 79 kph was used for York Road, based on the 85th percentile speed given in the traffic data, and 60 kph for Concession 7 Road. Day/night split of 90%/10% was applied for both roadways. An annual growth rate of 2.5% was used for both roadways.

Table II summarizes the traffic volume data used in this study.

Table 2: Projected Road Traffic Data to Year 2045

Roadway	AADT	Day / Night Split [%]	Trucks Percentage (%)		Speed Limit* [km/h]
			Medium	Heavy	
York Road	17 494	90 / 10	2.0	1.5	79
Concession 7 Road	1 954	90 / 10	9	15	60

3.3 Traffic Noise Predictions

Future traffic sound levels were predicted using STAMSON version 5.04, a computer algorithm developed by the MECP. Sample STAMSON output is included in Appendix B. Predictions of the traffic sound levels were made at the plane of the window on the 2nd storey of the dwellings. Table III summarizes the predicted sound levels.

Table 3: Maximum Traffic Sound Level Predictions [dBA]

Prediction Location	Unit No.	Location	Daytime LEQ (16 hour)	Nighttime LEQ (8 hour)
[A]	43	South façade with some exposure to York Road and flanking exposure to Concession 7 Road	<55	<50
[B]	1 - 16	East façade fronting onto Concession 7 Road	60	<50

Note:

Nighttime traffic sound levels have been adjusted in Stamson, due to limit of 40 vehicles per hour for Concession 7 Road

3.4 Traffic Noise Recommendations

The predictions indicate that the future traffic sound levels will exceed MECP guidelines at the dwellings fronting onto and with direct exposure to Concession 7 Road. Recommendations to address these excesses are discussed below.

3.4.1 Outdoor Living Areas

The dual frontage dwellings adjacent to Concession 7 Road do not include rear yards.

The remaining rear yards are a sufficient distance from the roadways such that noise mitigation in the form of acoustic barriers is not required.

3.4.2 Indoor Living Areas and Ventilation Requirements

Provision for the Future Installation of Air Conditioning by the Occupant

For all dwellings fronting onto or with direct exposure to Concession 7 (prediction location [B]), the predicted sound levels are predicted between 56 dBA and 65 dBA during the day. To address these excesses, the MECP guidelines recommend that these dwellings should be designed with a provision for the installation of central air conditioning in the future, at the occupant's discretion. The guidelines also recommend warning clauses for these blocks and lots. Figure 3 indicates the blocks requiring the provision for the installation of central air conditioning by the occupant.

Window or through-the-wall air conditioning units are not recommended for any residential units because of the noise they produce and because the units penetrate through the exterior wall which degrades the overall noise insulating properties of the envelope. The location, installation and sound ratings of the outdoor air conditioning devices should minimize noise impacts and comply with criteria of MECP publication NPC-300.

For the remaining dwelling units in the development further from the main roadways, there are no specific ventilation requirements.



3.4.3 Building Façade Constructions

The proposed dwelling units will have daytime and nighttime sound levels at the top storey façade that are less than 65 dBA and 60 dBA respectively. Any exterior wall and double-glazed window construction meeting the minimum requirements of the Ontario Building Code (OBC) will provide adequate sound insulation for the dwelling units. Any insulated metal exterior door meeting OBC requirements will be sufficient to provide noise insulation. If sliding patio doors are to be used in the dwellings, they must be included in the window area.

4 WARNING CLAUSES

The MECP guidelines recommend that warning clauses be included in the property and tenancy agreements for all lots and blocks with anticipated traffic sound level excesses. Examples are provided below.

Suggested wording for future dwellings with sound level excesses.

Type A:

Purchasers/tenants are advised that sound levels due to increasing road traffic may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment, Conservation and Parks.

Suitable wording for future dwellings requiring forced air ventilation systems is given below.

Type B:

This dwelling unit has been fitted with a forced air heating system and the ducting etc., was sized to accommodate central air conditioning. Installation of central air conditioning will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the Municipality's and the Ministry of the Environment, Conservation and Parks noise criteria. (Note: The location and installation of the outdoor air conditioning device should be done so as

to minimize the noise impacts and comply with criteria of MECP publication NPC-216, Residential Air Conditioning Devices.)

Suggested wording for future dwelling units in close proximity to existing commercial buildings is given below.

Type C:

Purchasers are advised that due to the proximity of the existing commercial and institutional buildings, sound levels from the facilities may be at times be audible.

These sample clauses are provided by the MECP as examples and can be modified by the Municipality as required.

5 STATIONARY SOURCE ASSESSMENT

5.1 Criteria Governing Stationary Noise Sources

NPC-300 is the latest MECP Guideline specified for use in assessing Land Use Compatibility issues. The facade of a residence (i.e., outside the plane of a window to a noise sensitive interior space such as a bedroom or living room), or any associated usable outdoor area are considered to be sensitive points of reception. NPC-300 stipulates that the non-impulsive sound level limit for a stationary noise source during daytime and evening hours (07:00 to 23:00) is the greater of the minimum one-hour energy equivalent (average) background sound level (Leq_{1hr}), or the exclusionary minimum limit of 50 dBA. During night-time hours (23:00 to 07:00), the exclusionary minimum limit is 45 dBA. At the residential development site, the noise sensitive receptors include the proposed townhouse blocks closest to the existing commercial/industrial uses to the south.

5.2 Stationary Noise Source Assessment

To the south of the site are two uses: an existing church, Lifepoint Bible Church and Del Priore Custom Kitchens. A noise impact assessment at the proposed townhouse blocks from the existing Del Priore Custom Kitchens was performed.

Del Priore includes two small loading areas and a tall dust collector that was in operation during the site visit.

A sound level measurement was performed at approximately the southern property line of the subject site as indicated on Figure 4. The dust collector was measured at 62 dBA at the property line.

Table IV: Source Sound Power Levels [dB re 10-12 W]

Source	Octave Band Centre Frequency [Hz]								Overall [dBA]
	63	125	250	500	1k	2k	4k	8k	
Carrier 7.5 Ton HVAC	91	84	80	79	77	72	67	64	82
Moving Medium Truck (each)	108	90	92	90	94	91	84	77	97

Predictive noise modelling was used to assess the potential noise impact of the dust collector and rooftop equipment at the closest proposed noise sensitive receptors at the proposed site. The noise prediction model was based on sound emission levels for rooftop equipment, assumed operational profiles (during the daytime/evening and nighttime), and established engineering methods for the prediction of outdoor sound propagation. These methods include the effects of distance, air absorption, and acoustical screening by barrier obstacles.

Information regarding the rooftop mechanical equipment was taken from past similar project from HGC Engineering project files and sound data obtained by on-site measurements conducted by HGC Engineering.

The following information and assumptions were used in the analysis.

- The Del Priore building is approximately 8 m in height.
- The dust collector is approximately 7 m in height.
- Business hours of Del Priore is 8 am to 4:30 pm Monday to Friday. They are closed Saturday and Sunday.

In accordance with establishing the predictable worst-case conditions, the rooftop HVAC equipment was assumed to operate at 100% capacity during daytime/evening and 50% during nighttime hours. The dust collector was

assumed to operate at 100% capacity during the daytime hours and could potentially operate as early as 6 am (a nighttime hour). The two small loading docks were assumed to have one medium truck each accessing the docks with no idling of truck engines.

Commercial activities such as the occasional movement of customer vehicles on the property, the infrequent delivery of goods and garbage collection are not of themselves considered to be significant noise sources in the MECP guidelines.

The sound levels were used as input to a predictive computer model. The software used for this purpose (*Cadna-A version 2023 MR1 (32 bit) Build: 197.5343*) is a computer implementation of ISO Standard 9613-2.2 "Acoustics - Attenuation of Sound During Propagation Outdoors." The ISO method accounts for reduction in sound level with distance due to geometrical spreading, air absorption, ground attenuation and acoustical shielding by intervening structures such as barriers. The calculations consider the acoustical effects of distance and shielding by the building.

5.3 Assessment Results

The aerial imagery, equipment information, and assumed operating scenarios described above were used as inputs to a numerical acoustical model of the development and surrounding area.

The townhouse blocks at the south have excesses as indicated in Figure 5. Recommendations for mitigation were provided at the residential development in the form of architectural solutions since Del Priori was not agreeable to mitigation at their building.

Figure 6 indicates some recommendations for mitigation at the proposed townhouse blocks. Mitigation includes no windows to sensitive spaces such as living/dining rooms along the south façade and one southwestern facade and review of architectural drawings. Some bedrooms on the townhouse units have been setback. The locations are identified.

Detailed Review of Architectural Drawings

The detailed architectural drawings were reviewed. The following are recommended.

Table 3: Unit Number and Required Mitigation

Unit Number	Block Number	Description	Drawing Location	Required Mitigation
17	4	B2B	--	--
18	4	B2B	--	--
19	4	B2B	--	--
40	4	B2B	--	--
41	4	B2B	--	--
42	4	B2B	As shown in Appendix D	Faux window included at west
43	4	Modero Sound Mitigation 2	As shown in Appendix D	Drawing reviewed, no excesses
44	4	Modero Sound Mitigation 2	As shown in Appendix D	Drawing reviewed, no excesses
45	4	Modero Sound Mitigation 2	As shown in Appendix D	Drawing reviewed, no excesses
54	4	Modero Sound Mitigation 2	As shown in Appendix D	Drawing reviewed, no excesses
55	4	Modero Sound Mitigation 2	As shown in Appendix D	Drawing reviewed, no excesses
56	4	Modero Sound Mitigation 2	As shown in Appendix D	Drawing reviewed, no excesses

Note: * See Block 4 drawings markup

6 SUMMARY OF RECOMMENDATIONS

The results of the study indicate that the proposed residential development is feasible. Future road traffic sound levels in some areas will exceed MECP guidelines, but feasible means exist to reduce the impact to within acceptable limits.

The following list and Table IV summarize the recommendations made in this report.

For transportation noise sources

1. For the dwellings fronting onto or with direct exposure to Concession 7 Road, a provision for the installation of central air conditioning in the future, at the occupant’s discretion should be included. The location, installation and sound ratings of the air conditioning devices should comply with NPC 300.

2. Warning clauses are required to inform future residents and tenants of the traffic noise level excesses.

Stationary Noise

3. The detailed architectural drawings have been reviewed for the dwellings with impact due to the stationary noise source associated with Del Priore Kitchens and recommendations have been provided and drawings as provided have no further noise excesses.

Table 9: Summary of Noise Control Requirements and Noise Warning Clauses

Prediction Location	Acoustic Barrier	Ventilation Requirements*	Type of Warning Clause	Minimum Glazing STC	Stationary Mitigation Required
A	--	--	--	OBC	+
B	--	Forced Air	A, B	OBC	--
Remaining Units	--	--	--	OBC	--

Note:
 -- no specific requirement
 * The location, installation, and sound rating of the air conditioning condensers must be compliant with MECP Guideline NPC-300, as applicable.
 + Table 3 in Section 5.6 includes notes on drawing review.

6.1 Implementation

To ensure that the noise recommendations outlined above are fully implemented, it is recommended that:

1. Prior to the issuance of occupancy permits for this development, a Professional Engineer qualified to perform acoustical services in the Province of Ontario or the town building department shall certify that the sound control measures have been properly installed and constructed.



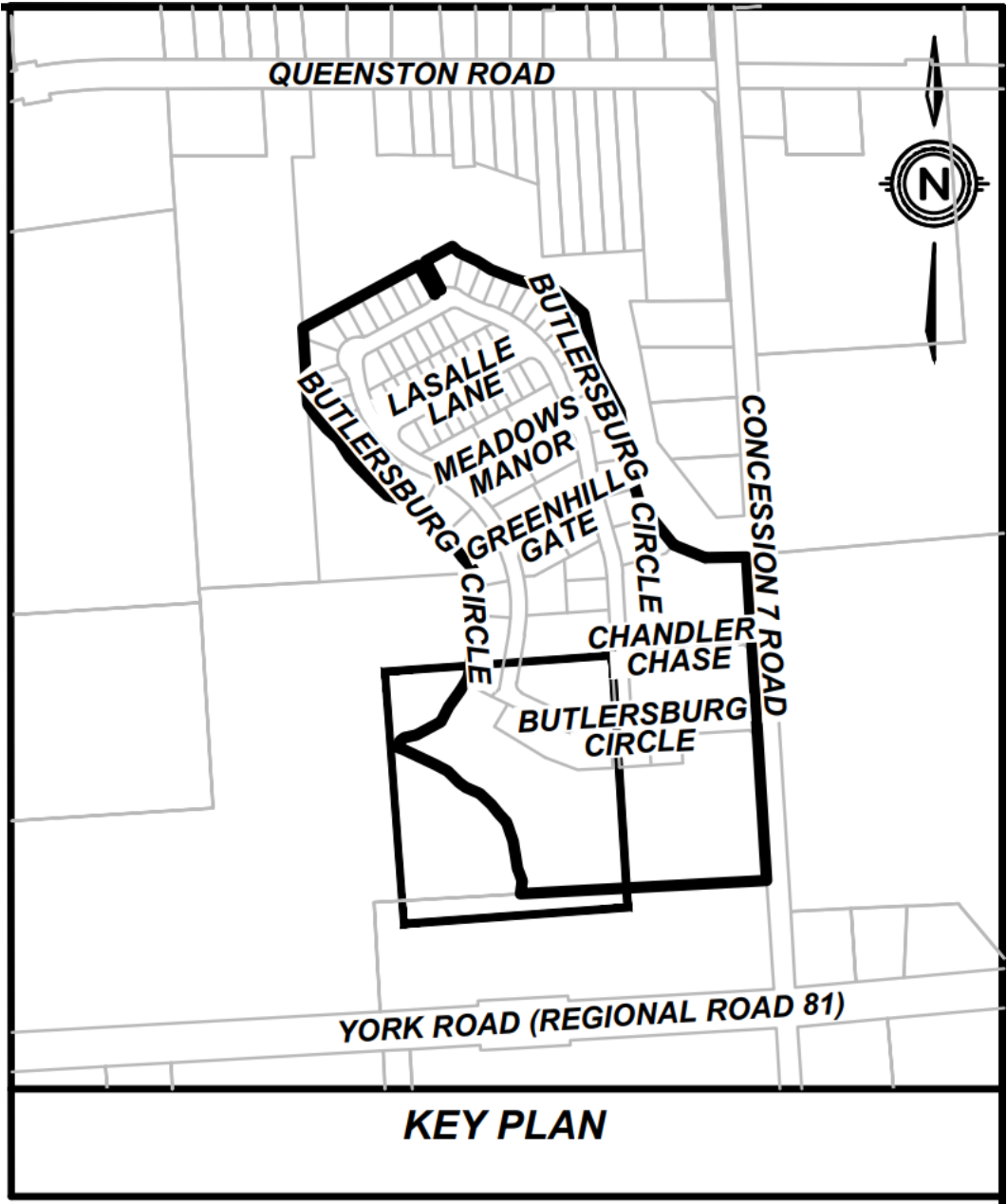


Figure 1 - Key Plan

Appendix A

Road Traffic Data



NOISE



VIBRATION



ACOUSTICS

**MH Corbin Traffic Analyzer Study
 Computer Generated Summary Report
 City: Niagara Region
 Street: 610581 - EB
 Location: 610581**

A study of vehicle traffic was conducted with the device having serial number 406296. The study was done in the EB lane at 610581 - EB in Niagara Region, ON in county. The study began on 2021-09-02 at 12:00 AM and concluded on 2021-09-03 at 12:00 AM, lasting a total of 24.00 hours. Traffic statistics were recorded in 15 minute time periods. The total recorded volume showed 5,174 vehicles passed through the location with a peak volume of 141 on 2021-09-02 at [04:30 PM-04:45 PM] and a minimum volume of 0 on 2021-09-02 at [02:30 AM-02:45 AM]. The AADT count for this study was 5,174.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 65 - 70 KM/H range or lower. The average speed for all classified vehicles was 72 KM/H with 94.10% vehicles exceeding the posted speed of 60 KM/H. 7.30% percent of the total vehicles were traveling in excess of 89 KM/H. The mode speed for this traffic study was 65KM/H and the 85th percentile was 79.88 KM/H.

< to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 to 94	95 to 99	100 to 104	105 to >
5	0	7	62	230	672	1329	1189	908	375	223	68	46	14	25

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin. Most of the vehicles classified during the study were Passenger Vehicles. The number of Passenger Vehicles in the study was 4890 which represents 95 percent of the total classified vehicles. The number of Small Trucks in the study was 94 which represents 2 percent of the total classified vehicles. The number of Trucks/Buses in the study was 104 which represents 2 percent of the total classified vehicles. The number of Tractor Trailers in the study was 65 which represents 1 percent of the total classified vehicles.

< to 4.9	5.0 to 7.9	8.0 to 9.9	10.0 to 12.9	13.0 to 15.9	16.0 to 18.9	19.0 to 21.9	22.0 to >							
2687	2203	94	104	21	13	25	6							

CHART 2

HEADWAY

During the peak traffic period, on 2021-09-02 at [04:30 PM-04:45 PM] the average headway between vehicles was 6.338 seconds. During the slowest traffic period, on 2021-09-02 at [02:30 AM-02:45 AM] the average headway between vehicles was 900 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 20.00 and 39.00 degrees C.

**MH Corbin Traffic Analyzer Study
 Computer Generated Summary Report
 City: Niagara Region
 Street: 610581 - WB
 Location: 610581**

A study of vehicle traffic was conducted with the device having serial number 402503. The study was done in the WB lane at 610581 - WB in Niagara Region, ON in county. The study began on 2021-09-02 at 12:00 AM and concluded on 2021-09-03 at 12:00 AM, lasting a total of 24.00 hours. Traffic statistics were recorded in 15 minute time periods. The total recorded volume showed 4,740 vehicles passed through the location with a peak volume of 116 on 2021-09-02 at [02:00 PM-02:15 PM] and a minimum volume of 0 on 2021-09-02 at [01:00 AM-01:15 AM]. The AADT count for this study was 4,740.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 65 - 70 KM/H range or lower. The average speed for all classified vehicles was 69 KM/H with 89.83% vehicles exceeding the posted speed of 60 KM/H. 2.77% percent of the total vehicles were traveling in excess of 89 KM/H. The mode speed for this traffic study was 65KM/H and the 85th percentile was 77.37 KM/H.

< to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 to 94	95 to 99	100 to 104	105 to >
0	1	13	85	382	956	1189	1103	611	258	87	22	11	3	8

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin. Most of the vehicles classified during the study were Passenger Vehicles. The number of Passenger Vehicles in the study was 4455 which represents 94 percent of the total classified vehicles. The number of Small Trucks in the study was 104 which represents 2 percent of the total classified vehicles. The number of Trucks/Buses in the study was 98 which represents 2 percent of the total classified vehicles. The number of Tractor Trailers in the study was 72 which represents 2 percent of the total classified vehicles.

< to 4.9	5.0 to 7.9	8.0 to 9.9	10.0 to 12.9	13.0 to 15.9	16.0 to 18.9	19.0 to 21.9	22.0 to >							
2692	1763	104	98	28	16	26	2							

CHART 2

HEADWAY

During the peak traffic period, on 2021-09-02 at [02:00 PM-02:15 PM] the average headway between vehicles was 7.692 seconds. During the slowest traffic period, on 2021-09-02 at [01:00 AM-01:15 AM] the average headway between vehicles was 900 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 20.00 and 40.00 degrees C.

Time/Class Report

Device ID: 406296 Operator: MD Begin: 09-02-2021 12:00 AM End: 09-03-2021 12:00 AM Hours: 24.00 Period (min): 15	Location: 7961 Lane: EB Street: 610581 - EB City: Niagara Region County: State: ON	Raw Count: 5,174 AADT Count: 5,174 AADT Factor: 1 Speed Limit: 60
---	---	--

Date And Time Range	< to 15	16 to 25	26 to 32	33 to 42	43 to 51	52 to 61	62 to 71	72 to >	Total
Thu,09-02-2021									
[00:00-00:15]	2	5	0	0	0	0	0	0	7
[00:15-00:30]	1	3	0	0	0	0	0	0	4
[00:30-00:45]	4	4	0	0	0	0	0	0	8
[00:45-01:00]	3	1	0	0	0	0	0	0	4
	10	13	0	0	0	0	0	0	23
[01:00-01:15]	3	1	0	0	0	0	0	0	4
[01:15-01:30]	1	0	0	0	0	0	0	0	1
[01:30-01:45]	1	1	0	0	0	0	0	0	2
[01:45-02:00]	3	0	0	0	0	0	0	0	3
	8	2	0	0	0	0	0	0	10
[02:00-02:15]	2	0	0	0	0	0	0	0	2
[02:15-02:30]	0	1	0	0	0	0	0	0	1
[02:30-02:45]	0	0	0	0	0	0	0	0	0
[02:45-03:00]	0	2	0	0	0	0	0	0	2
	2	3	0	0	0	0	0	0	5
[03:00-03:15]	1	0	0	0	0	0	0	0	1
[03:15-03:30]	1	1	0	0	0	0	0	0	2
[03:30-03:45]	2	1	0	0	0	0	0	0	3
[03:45-04:00]	0	2	0	0	0	0	0	0	2
	4	4	0	0	0	0	0	0	8
[04:00-04:15]	1	1	0	0	0	0	0	0	2
[04:15-04:30]	1	1	0	0	0	0	0	0	2
[04:30-04:45]	1	0	0	0	0	0	1	0	2
[04:45-05:00]	4	2	0	0	0	0	0	0	6
	7	4	0	0	0	0	1	0	12
[05:00-05:15]	5	4	0	0	0	0	0	0	9
[05:15-05:30]	8	3	0	0	0	0	0	0	11
[05:30-05:45]	5	9	0	0	0	0	0	0	14
[05:45-06:00]	14	5	1	0	0	0	0	0	20
	32	21	1	0	0	0	0	0	54
[06:00-06:15]	7	10	0	0	0	0	0	0	17
[06:15-06:30]	14	12	0	1	0	1	0	0	28
[06:30-06:45]	17	15	1	2	0	0	0	0	35
[06:45-07:00]	19	22	1	0	0	0	1	0	43
	57	59	2	3	0	1	1	0	123
[07:00-07:15]	15	15	2	1	1	0	1	0	35
[07:15-07:30]	23	9	3	1	1	0	1	0	38
[07:30-07:45]	24	35	3	1	0	0	0	0	63

Time/Class Report

Device ID: 406296 Operator: MD Begin: 09-02-2021 12:00 AM End: 09-03-2021 12:00 AM Hours: 24.00 Period (min): 15	Location: 7961 Lane: EB Street: 610581 - EB City: Niagara Region County: State: ON	Raw Count: 5,174 AADT Count: 5,174 AADT Factor: 1 Speed Limit: 60
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Date And Time Range	< to 15	16 to 25	26 to 32	33 to 42	43 to 51	52 to 61	62 to 71	72 to >	Total
Thu,09-02-2021									
[07:45-08:00]	36	31	0	1	0	1	0	0	69
	98	90	8	4	2	1	2	0	205
[08:00-08:15]	30	29	3	9	0	0	0	1	72
[08:15-08:30]	24	28	3	5	1	0	0	0	61
[08:30-08:45]	33	34	2	3	1	1	1	0	75
[08:45-09:00]	37	35	3	2	0	0	0	0	77
	124	126	11	19	2	1	1	1	285
[09:00-09:15]	21	42	2	5	0	0	1	0	71
[09:15-09:30]	25	22	3	1	0	1	1	0	53
[09:30-09:45]	34	26	1	1	1	0	4	0	67
[09:45-10:00]	38	38	1	6	1	0	1	0	85
	118	128	7	13	2	1	7	0	276
[10:00-10:15]	33	35	3	3	0	0	0	0	74
[10:15-10:30]	30	48	2	3	0	1	0	0	84
[10:30-10:45]	28	36	3	5	0	0	0	0	72
[10:45-11:00]	48	35	2	3	0	0	0	0	88
	139	154	10	14	0	1	0	0	318
[11:00-11:15]	37	44	1	2	0	0	1	0	85
[11:15-11:30]	59	46	2	2	0	0	0	0	109
[11:30-11:45]	36	40	3	2	0	0	1	0	82
[11:45-12:00]	59	45	2	0	0	0	0	1	107
	191	175	8	6	0	0	2	1	383
[12:00-12:15]	53	43	2	1	0	1	0	0	100
[12:15-12:30]	48	42	7	3	0	0	0	1	101
[12:30-12:45]	51	43	2	1	0	0	0	0	97
[12:45-13:00]	59	48	0	2	0	1	1	0	111
	211	176	11	7	0	2	1	1	409
[13:00-13:15]	71	46	2	2	0	1	1	1	124
[13:15-13:30]	59	33	2	2	0	0	1	0	97
[13:30-13:45]	61	42	1	4	1	0	0	0	109
[13:45-14:00]	61	52	2	1	1	0	0	1	118
	252	173	7	9	2	1	2	2	448
[14:00-14:15]	57	41	2	1	0	0	0	0	101
[14:15-14:30]	49	37	2	2	0	1	1	0	92
[14:30-14:45]	50	49	3	1	0	0	0	0	103
[14:45-15:00]	42	47	1	4	1	0	1	0	96
	198	174	8	8	1	1	2	0	392

Time/Class Report

Device ID: 406296		Location: 7961				Raw Count: 5,174					
Operator: MD		Lane: EB				AADT Count: 5,174					
Begin: 09-02-2021 12:00 AM		Street: 610581 - EB				AADT Factor: 1					
End: 09-03-2021 12:00 AM		City: Niagara Region				Speed Limit: 60					
Hours: 24.00		County:									
Period (min): 15		State: ON									
Date	<	16	26	33	43	52	62	72			
And	to	to	to	to	to	to	to	to			
Time Range	15	25	32	42	51	61	71	>			Total
Thu,09-02-2021											
[15:00-15:15]	44	40	0	1	1	0	1	0			87
[15:15-15:30]	76	46	2	1	1	0	0	0			126
[15:30-15:45]	46	42	1	0	1	0	0	0			90
[15:45-16:00]	57	32	3	1	0	0	0	0			93
	<u>223</u>	<u>160</u>	<u>6</u>	<u>3</u>	<u>3</u>	<u>0</u>	<u>1</u>	<u>0</u>			<u>396</u>
[16:00-16:15]	72	43	2	2	0	1	0	0			120
[16:15-16:30]	63	54	4	1	0	0	0	0			122
[16:30-16:45]	76	57	2	2	1	1	2	0			141
[16:45-17:00]	53	49	0	3	0	2	1	0			108
	<u>264</u>	<u>203</u>	<u>8</u>	<u>8</u>	<u>1</u>	<u>4</u>	<u>3</u>	<u>0</u>			<u>491</u>
[17:00-17:15]	56	47	1	1	2	0	0	0			107
[17:15-17:30]	60	46	0	3	0	0	0	0			109
[17:30-17:45]	51	45	0	0	1	0	0	0			97
[17:45-18:00]	38	38	1	0	0	0	0	0			77
	<u>205</u>	<u>176</u>	<u>2</u>	<u>4</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>0</u>			<u>390</u>
[18:00-18:15]	44	37	0	1	1	0	0	0			83
[18:15-18:30]	56	44	1	1	0	0	0	0			102
[18:30-18:45]	40	23	0	0	1	0	1	0			65
[18:45-19:00]	48	19	0	1	2	0	0	0			70
	<u>188</u>	<u>123</u>	<u>1</u>	<u>3</u>	<u>4</u>	<u>0</u>	<u>1</u>	<u>0</u>			<u>320</u>
[19:00-19:15]	29	32	0	1	0	0	0	0			62
[19:15-19:30]	25	13	0	0	0	0	1	0			39
[19:30-19:45]	35	16	0	0	0	0	0	0			51
[19:45-20:00]	26	15	1	0	0	0	0	0			42
	<u>115</u>	<u>76</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>			<u>194</u>
[20:00-20:15]	36	24	0	0	0	0	0	0			60
[20:15-20:30]	26	18	0	0	0	0	0	0			44
[20:30-20:45]	24	10	1	0	0	0	0	0			35
[20:45-21:00]	28	15	0	2	0	0	0	0			45
	<u>114</u>	<u>67</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>			<u>184</u>
[21:00-21:15]	15	19	0	0	0	0	0	1			35
[21:15-21:30]	24	12	0	0	0	0	0	0			36
[21:30-21:45]	10	12	0	0	0	0	0	0			22
[21:45-22:00]	14	8	0	0	0	0	0	0			22
	<u>63</u>	<u>51</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>			<u>115</u>
[22:00-22:15]	10	7	0	0	0	0	0	0			17
[22:15-22:30]	9	2	0	0	0	0	0	0			11
[22:30-22:45]	14	7	2	0	0	0	0	0			23

Time/Class Report

Device ID: 406296 Operator: MD Begin: 09-02-2021 12:00 AM End: 09-03-2021 12:00 AM Hours: 24.00 Period (min): 15	Location: 7961 Lane: EB Street: 610581 - EB City: Niagara Region County: State: ON	Raw Count: 5,174 AADT Count: 5,174 AADT Factor: 1 Speed Limit: 60							
Date And Time Range	< to 15	16 to 25	26 to 32	33 to 42	43 to 51	52 to 61	62 to 71	72 to >	Total
Thu,09-02-2021									
[22:45-23:00]	10	9	0	0	0	0	0	0	19
	43	25	2	0	0	0	0	0	70
[23:00-23:15]	6	9	0	0	1	0	0	0	16
[23:15-23:30]	5	4	0	0	0	0	0	0	9
[23:30-23:45]	5	5	0	0	0	0	0	0	10
[23:45-00:00]	5	2	0	0	0	0	0	0	7
	21	20	0	0	1	0	0	0	42
09-02-2021 12:00 AM									
09-03-2021 12:00 AM	2687	2203	94	104	21	13	25	6	5153

Time/Class Report

Device ID: 402503 Operator: MD Begin: 09-02-2021 12:00 AM End: 09-03-2021 12:00 AM Hours: 24.00 Period (min): 15	Location: 7961 Lane: WB Street: 610581 - WB City: Niagara Region County: State: ON	Raw Count: 4,740 AADT Count: 4,740 AADT Factor: 1 Speed Limit: 60
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Date And Time Range	< to 15	16 to 25	26 to 32	33 to 42	43 to 51	52 to 61	62 to 71	72 to >	Total
Thu,09-02-2021									
[00:00-00:15]	2	1	1	0	0	0	0	0	4
[00:15-00:30]	2	1	0	0	0	0	0	0	3
[00:30-00:45]	1	4	0	0	0	0	0	0	5
[00:45-01:00]	1	0	0	0	0	0	0	0	1
	6	6	1	0	0	0	0	0	13
[01:00-01:15]	0	0	0	0	0	0	0	0	0
[01:15-01:30]	1	0	0	0	0	0	0	0	1
[01:30-01:45]	2	0	0	0	0	0	0	0	2
[01:45-02:00]	2	1	0	0	0	0	0	0	3
	5	1	0	0	0	0	0	0	6
[02:00-02:15]	1	1	0	0	0	0	0	0	2
[02:15-02:30]	0	1	1	0	0	0	0	0	2
[02:30-02:45]	0	2	1	0	0	0	1	0	4
[02:45-03:00]	0	1	0	0	0	0	0	0	1
	1	5	2	0	0	0	1	0	9
[03:00-03:15]	0	0	0	0	0	0	0	0	0
[03:15-03:30]	1	0	0	0	0	0	0	0	1
[03:30-03:45]	1	2	0	0	0	0	0	0	3
[03:45-04:00]	0	0	0	0	0	0	0	0	0
	2	2	0	0	0	0	0	0	4
[04:00-04:15]	1	0	1	0	0	0	0	0	2
[04:15-04:30]	1	3	0	1	0	0	0	0	5
[04:30-04:45]	2	1	0	0	0	0	0	0	3
[04:45-05:00]	4	3	0	0	0	0	0	0	7
	8	7	1	1	0	0	0	0	17
[05:00-05:15]	5	1	0	2	0	1	0	0	9
[05:15-05:30]	7	7	0	0	0	0	0	0	14
[05:30-05:45]	8	15	0	0	0	0	0	0	23
[05:45-06:00]	11	2	0	1	0	0	0	0	14
	31	25	0	3	0	1	0	0	60
[06:00-06:15]	9	6	0	0	0	0	1	0	16
[06:15-06:30]	8	11	0	0	0	1	0	0	20
[06:30-06:45]	13	13	2	0	0	0	0	0	28
[06:45-07:00]	28	15	0	3	1	0	2	0	49
	58	45	2	3	1	1	3	0	113
[07:00-07:15]	25	13	0	0	0	1	0	0	39
[07:15-07:30]	15	17	0	1	1	0	0	1	35
[07:30-07:45]	37	26	2	1	1	0	1	0	68

Time/Class Report

Device ID: 402503 Operator: MD Begin: 09-02-2021 12:00 AM End: 09-03-2021 12:00 AM Hours: 24.00 Period (min): 15	Location: 7961 Lane: WB Street: 610581 - WB City: Niagara Region County: State: ON	Raw Count: 4,740 AADT Count: 4,740 AADT Factor: 1 Speed Limit: 60
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Date And Time Range	< to 15	16 to 25	26 to 32	33 to 42	43 to 51	52 to 61	62 to 71	72 to >	Total
Thu,09-02-2021									
[07:45-08:00]	25	27	2	0	0	2	0	0	56
	102	83	4	2	2	3	1	1	198
[08:00-08:15]	34	26	5	1	0	1	2	0	69
[08:15-08:30]	41	39	3	3	0	0	0	0	86
[08:30-08:45]	46	31	3	0	0	0	1	0	81
[08:45-09:00]	36	21	6	4	0	0	0	0	67
	157	117	17	8	0	1	3	0	303
[09:00-09:15]	43	25	2	0	0	0	1	0	71
[09:15-09:30]	33	28	3	3	1	0	0	0	68
[09:30-09:45]	39	31	4	1	0	0	0	0	75
[09:45-10:00]	53	26	1	2	0	1	1	0	84
	168	110	10	6	1	1	2	0	298
[10:00-10:15]	38	34	4	0	0	0	0	0	76
[10:15-10:30]	35	28	2	2	3	0	0	0	70
[10:30-10:45]	46	48	1	4	0	0	1	0	100
[10:45-11:00]	41	32	3	2	0	0	0	0	78
	160	142	10	8	3	0	1	0	324
[11:00-11:15]	40	31	2	1	0	0	1	0	75
[11:15-11:30]	54	29	4	3	1	0	0	0	91
[11:30-11:45]	44	37	0	3	1	1	0	0	86
[11:45-12:00]	47	29	5	3	0	0	1	0	85
	185	126	11	10	2	1	2	0	337
[12:00-12:15]	58	24	2	3	0	1	0	0	88
[12:15-12:30]	51	28	3	1	1	1	0	0	85
[12:30-12:45]	43	29	0	2	0	0	0	0	74
[12:45-13:00]	57	32	4	1	0	1	0	0	95
	209	113	9	7	1	3	0	0	342
[13:00-13:15]	51	33	2	2	1	0	0	0	89
[13:15-13:30]	48	34	1	2	0	0	2	0	87
[13:30-13:45]	43	34	2	3	0	1	0	0	83
[13:45-14:00]	61	32	1	6	0	0	0	0	100
	203	133	6	13	1	1	2	0	359
[14:00-14:15]	54	55	1	4	0	1	0	1	116
[14:15-14:30]	61	25	3	0	4	0	1	0	94
[14:30-14:45]	52	45	1	2	0	0	0	0	100
[14:45-15:00]	64	35	4	4	0	0	0	0	107
	231	160	9	10	4	1	1	1	417

Time/Class Report

Device ID: 402503		Location: 7961				Raw Count: 4,740				
Operator: MD		Lane: WB				AADT Count: 4,740				
Begin: 09-02-2021 12:00 AM		Street: 610581 - WB				AADT Factor: 1				
End: 09-03-2021 12:00 AM		City: Niagara Region				Speed Limit: 60				
Hours: 24.00		County:								
Period (min): 15		State: ON								
Date	<	16	26	33	43	52	62	72		
And	to	to	to	to	to	to	to	to		
Time Range	15	25	32	42	51	61	71	>		Total
Thu,09-02-2021										
[15:00-15:15]	65	35	3	4	1	0	2	0		110
[15:15-15:30]	54	36	1	2	2	0	0	0		95
[15:30-15:45]	65	41	2	2	1	0	1	0		112
[15:45-16:00]	66	41	1	4	0	0	0	0		112
	250	153	7	12	4	0	3	0		429
[16:00-16:15]	59	38	3	1	1	0	0	0		102
[16:15-16:30]	50	31	1	1	0	0	1	0		84
[16:30-16:45]	68	41	0	1	2	0	0	0		112
[16:45-17:00]	67	32	3	3	0	0	0	0		105
	244	142	7	6	3	0	1	0		403
[17:00-17:15]	64	34	0	3	0	0	0	0		101
[17:15-17:30]	55	19	0	1	2	1	0	0		78
[17:30-17:45]	56	26	2	2	0	0	0	0		86
[17:45-18:00]	33	16	0	0	0	0	1	0		50
	208	95	2	6	2	1	1	0		315
[18:00-18:15]	33	28	1	1	2	1	0	0		66
[18:15-18:30]	44	24	0	1	0	1	0	0		70
[18:30-18:45]	34	10	0	0	0	0	0	0		44
[18:45-19:00]	28	17	0	0	0	0	0	0		45
	139	79	1	2	2	2	0	0		225
[19:00-19:15]	16	21	1	0	1	0	0	0		39
[19:15-19:30]	38	13	1	0	0	0	0	0		52
[19:30-19:45]	17	21	0	0	0	0	0	0		38
[19:45-20:00]	22	20	1	0	1	0	1	0		45
	93	75	3	0	2	0	1	0		174
[20:00-20:15]	28	11	0	0	0	0	1	0		40
[20:15-20:30]	34	24	0	0	0	0	0	0		58
[20:30-20:45]	26	19	0	0	0	0	0	0		45
[20:45-21:00]	24	11	1	0	0	0	1	0		37
	112	65	1	0	0	0	2	0		180
[21:00-21:15]	18	8	0	0	0	0	0	0		26
[21:15-21:30]	14	12	0	1	0	0	1	0		28
[21:30-21:45]	16	12	0	0	0	0	0	0		28
[21:45-22:00]	9	7	0	0	0	0	0	0		16
	57	39	0	1	0	0	1	0		98
[22:00-22:15]	10	8	0	0	0	0	0	0		18
[22:15-22:30]	13	7	0	0	0	0	0	0		20
[22:30-22:45]	9	4	1	0	0	0	0	0		14

Time/Class Report

Device ID: 402503 Operator: MD Begin: 09-02-2021 12:00 AM End: 09-03-2021 12:00 AM Hours: 24.00 Period (min): 15	Location: 7961 Lane: WB Street: 610581 - WB City: Niagara Region County: State: ON	Raw Count: 4,740 AADT Count: 4,740 AADT Factor: 1 Speed Limit: 60							
Date And Time Range	< to 15	16 to 25	26 to 32	33 to 42	43 to 51	52 to 61	62 to 71	72 to >	Total
Thu,09-02-2021									
[22:45-23:00]	9	7	0	0	0	0	0	0	16
	41	26	1	0	0	0	0	0	68
[23:00-23:15]	6	6	0	0	0	0	0	0	12
[23:15-23:30]	5	6	0	0	0	0	0	0	11
[23:30-23:45]	9	0	0	0	0	0	1	0	10
[23:45-00:00]	2	2	0	0	0	0	0	0	4
	22	14	0	0	0	0	1	0	37
09-02-2021 12:00 AM									
09-03-2021 12:00 AM	2692	1763	104	98	28	16	26	2	4729

Location..... Concession 7 Road @ Queenston Road

GeoID..... 10608

Municipality. NIAGARA-ON-THE-LAKE

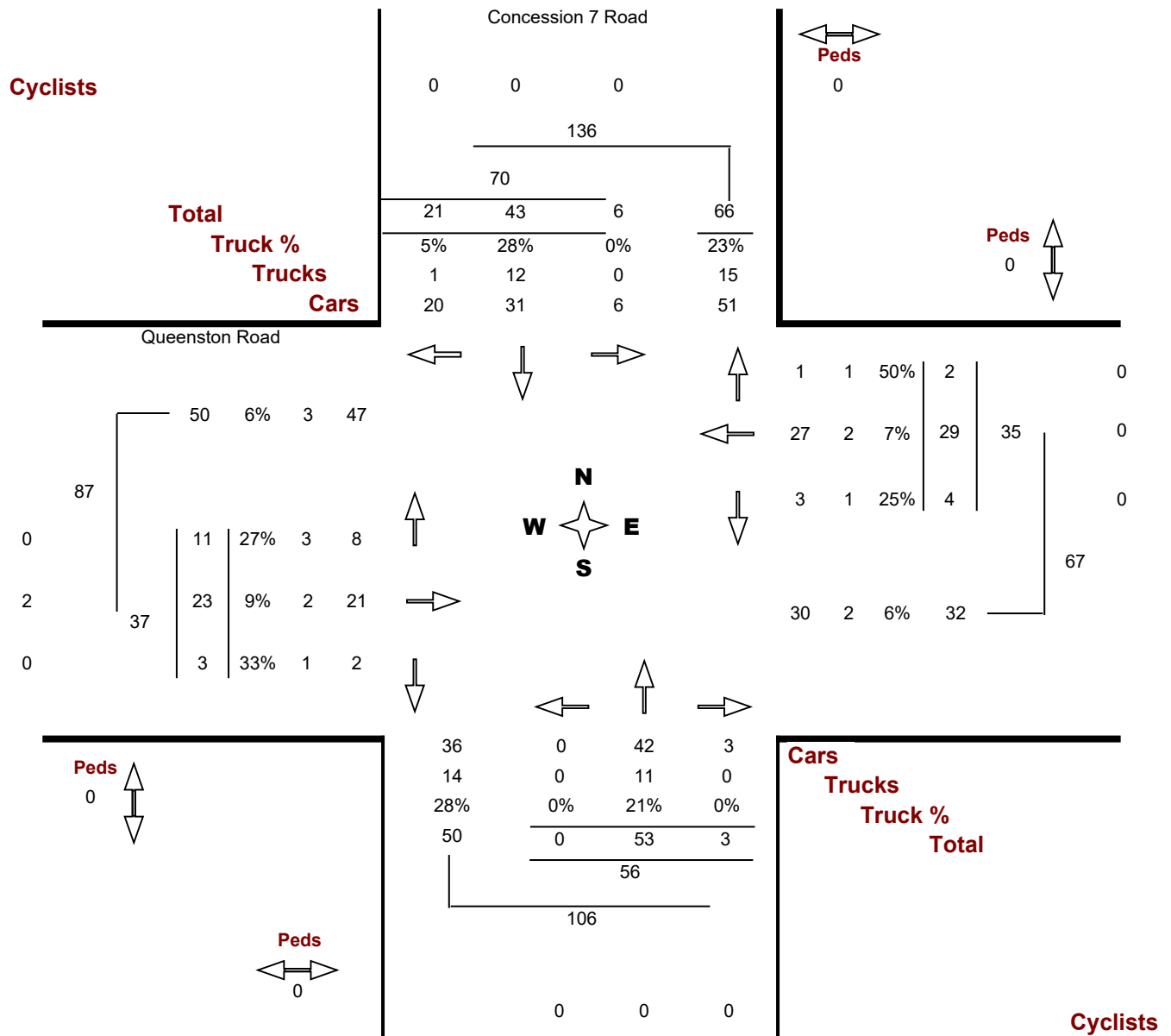
Count Date. Thursday, 16 June, 2016

Traffic Cont.

Count Time. 07:00 AM — 09:00 AM

Major Dir..... None

Peak Hour.. 07:45 AM — 08:45 AM



Location..... Concession 7 Road @ Queenston Road

GeoID..... 10608

Municipality. NIAGARA-ON-THE-LAKE

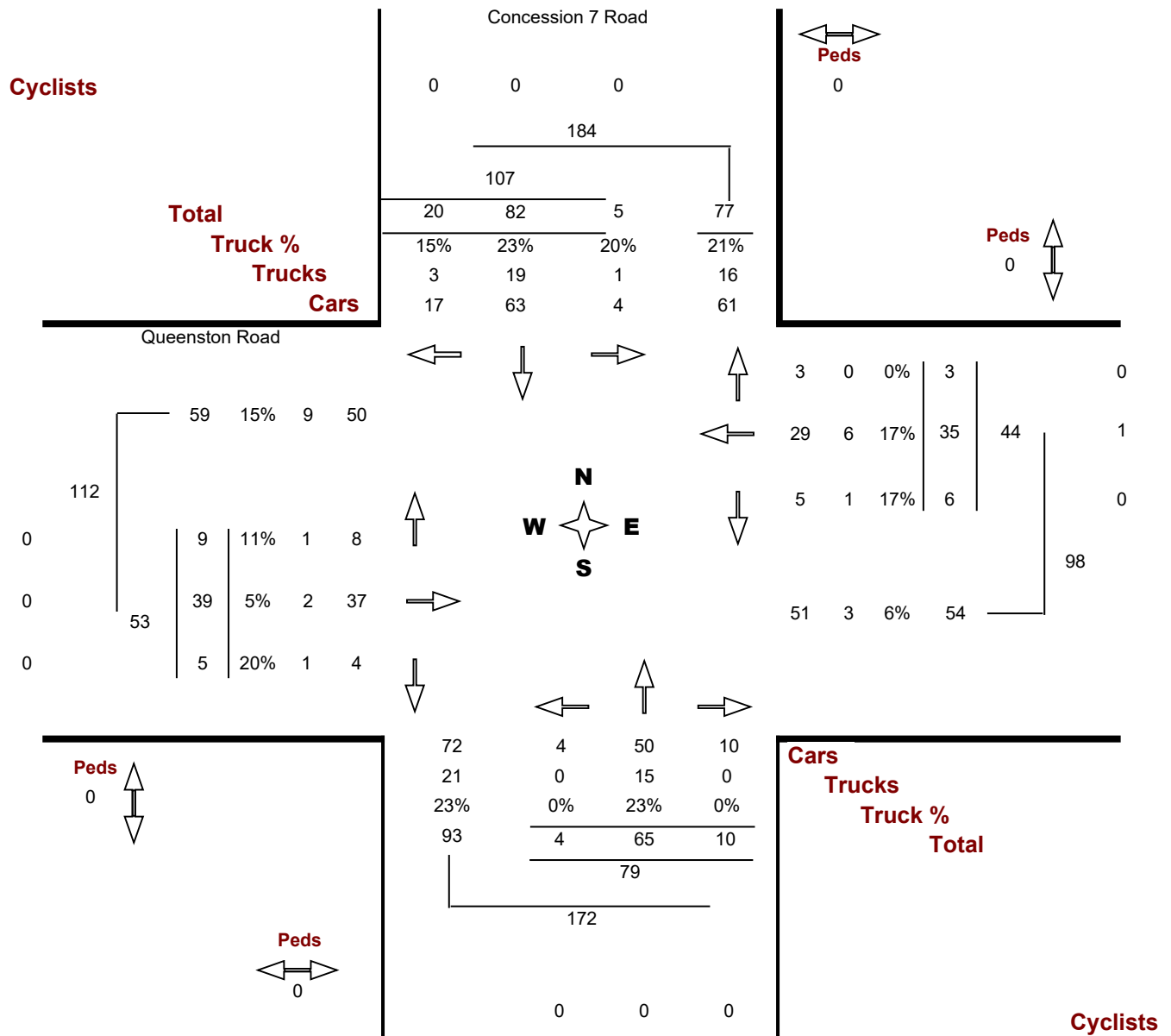
Count Date. Thursday, 16 June, 2016

Traffic Cont.

Count Time. 03:00 PM — 06:00 PM

Major Dir..... None

Peak Hour.. 03:30 PM — 04:30 PM

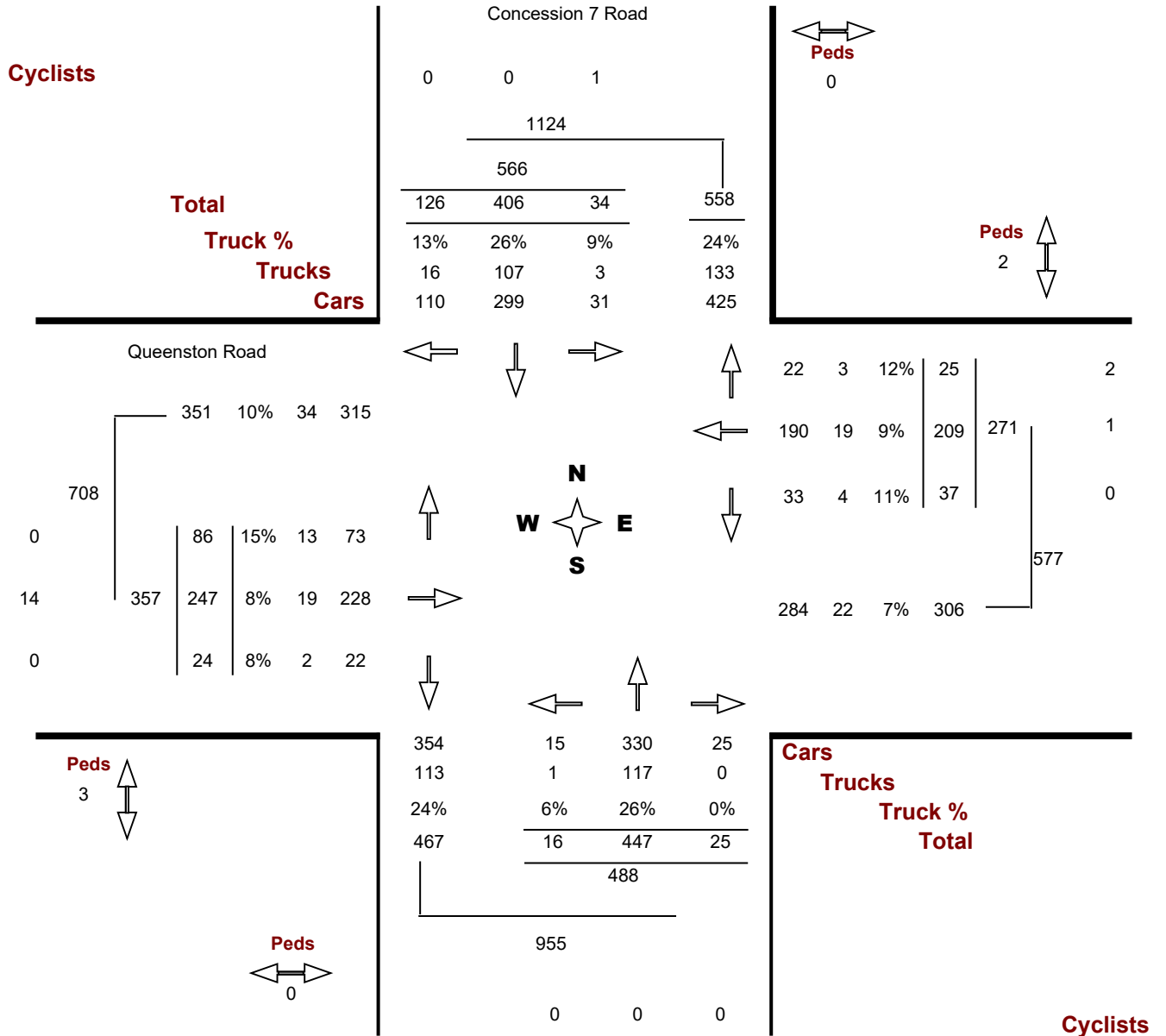


Location..... Concession 7 Road @ Queenston Road

Municipality..... NIAGARA-ON-THE-LAKE

GeoID..... 10608

Count Date..... Thursday, 16 June, 2016



Turning Movement Count - Details Report (15 min)

Location..... Concession 7 Road @ Queenston Road

Municipality..... NIAGARA-ON-THE-LAKE

Count Date..... Thursday, June 16, 2016

Concession 7 Road

Queenston Road

North Approach

South Approach

East Approach

West Approach

Time Period	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT
07:00 07:15	2	8	0	0	10	0	7	0	0	7	3	3	0	0	6	1	8	0	0	9
07:15 07:30	1	7	3	0	11	0	9	0	0	9	1	6	0	0	7	1	8	1	0	10
07:30 07:45	0	5	3	0	8	0	15	0	0	15	3	9	1	0	13	0	6	0	0	6
07:45 08:00	0	10	6	0	16	0	14	0	0	14	0	11	0	0	11	1	12	0	0	13
Hourly Total	3	30	12	0	45	0	45	0	0	45	7	29	1	0	37	3	34	1	0	38
08:00 08:15	1	12	3	0	16	0	17	0	0	17	1	7	1	0	9	3	2	1	0	6
08:15 08:30	0	10	8	0	18	0	10	0	0	10	3	5	0	0	8	2	5	0	0	7
08:30 08:45	5	11	4	0	20	0	12	3	0	15	0	6	1	0	7	5	4	2	0	11
08:45 09:00	1	10	2	0	13	1	19	2	0	22	1	8	1	0	10	3	4	0	0	7
Hourly Total	7	43	17	0	67	1	58	5	0	64	5	26	3	0	34	13	15	3	0	31
11:00 11:15	1	10	6	0	17	0	12	1	0	13	0	4	0	0	4	2	5	0	0	7
11:15 11:30	0	20	2	0	22	2	13	0	0	15	1	2	1	0	4	5	4	2	0	11
11:30 11:45	0	11	2	0	13	0	13	0	0	13	0	10	1	0	11	0	10	0	0	10
11:45 12:00	2	12	4	0	18	1	13	1	0	15	0	5	0	0	5	3	10	0	0	13
Hourly Total	3	53	14	0	70	3	51	2	0	56	1	21	2	0	24	10	29	2	0	41
12:00 12:15	2	11	2	0	15	1	14	0	0	15	0	7	0	0	7	0	9	2	0	11
12:15 12:30	0	11	3	0	14	1	13	0	0	14	1	4	1	0	6	4	5	1	0	10
12:30 12:45	1	13	4	0	18	1	11	1	0	13	0	4	2	0	6	2	2	2	0	6
12:45 13:00	1	15	3	0	19	0	13	0	0	13	1	8	0	0	9	2	3	0	0	5
Hourly Total	4	50	12	0	66	3	51	1	0	55	2	23	3	0	28	8	19	5	0	32
13:00 13:15	2	11	4	0	17	0	10	0	0	10	3	7	2	0	12	6	7	1	0	14
13:15 13:30	2	12	3	0	17	1	17	1	0	19	1	2	1	0	4	5	8	0	0	13
13:30 13:45	0	12	4	0	16	1	14	0	0	15	1	1	1	0	3	3	5	1	0	9
13:45 14:00	1	12	5	0	18	1	15	0	0	16	1	6	3	0	10	3	4	1	0	8
Hourly Total	5	47	16	0	68	3	56	1	0	60	6	16	7	0	29	17	24	3	0	44
15:00 15:15	0	11	11	0	22	0	13	2	0	15	1	13	0	0	14	4	9	0	0	13
15:15 15:30	2	8	2	0	12	0	17	1	0	18	0	6	1	0	7	4	12	0	0	16
15:30 15:45	1	20	5	0	26	1	21	1	0	23	1	8	1	0	10	3	6	1	0	10
15:45 16:00	2	21	3	0	26	0	14	4	0	18	2	7	1	0	10	4	11	1	0	16
Hourly Total	5	60	21	0	86	1	65	8	0	74	4	34	3	0	41	15	38	2	0	55
16:00 16:15	1	26	7	0	34	2	17	4	0	23	3	6	1	0	10	1	11	3	0	15

Concession 7 Road

Queenston Road

North Approach

South Approach

East Approach

West Approach

Time Period	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT
16:15 16:30	1	15	5	0	21	1	13	1	0	15	0	14	0	0	14	1	11	0	0	12
16:30 16:45	0	14	3	0	17	0	15	0	0	15	1	6	0	0	7	4	13	0	0	17
16:45 17:00	2	24	4	0	30	0	15	0	0	15	0	5	0	0	5	4	17	2	0	23
Hourly Total	4	79	19	0	102	3	60	5	0	68	4	31	1	0	36	10	52	5	0	67
17:00 17:15	1	18	6	0	25	0	21	1	0	22	4	6	0	0	10	2	8	0	0	10
17:15 17:30	1	8	3	0	12	1	14	0	0	15	4	9	1	0	14	1	7	1	0	9
17:30 17:45	1	7	2	0	10	1	15	1	0	17	0	6	2	0	8	3	8	0	0	11
17:45 18:00	0	11	4	0	15	0	11	1	0	12	0	8	2	0	10	4	13	2	0	19
Hourly Total	3	44	15	0	62	2	61	3	0	66	8	29	5	0	42	10	36	3	0	49
Grand Total	34	406	126	0	566	16	447	25	0	488	37	209	25	0	271	86	247	24	0	357
Truck %	9%	26%	13%	0%	22%	6%	26%	0%	0%	24%	11%	9%	12%	0%	10%	15%	8%	8%	0%	10%

Location..... Concession 7 Road @ York Road

GeoID..... 00905

Municipality. NIAGARA-ON-THE-LAKE

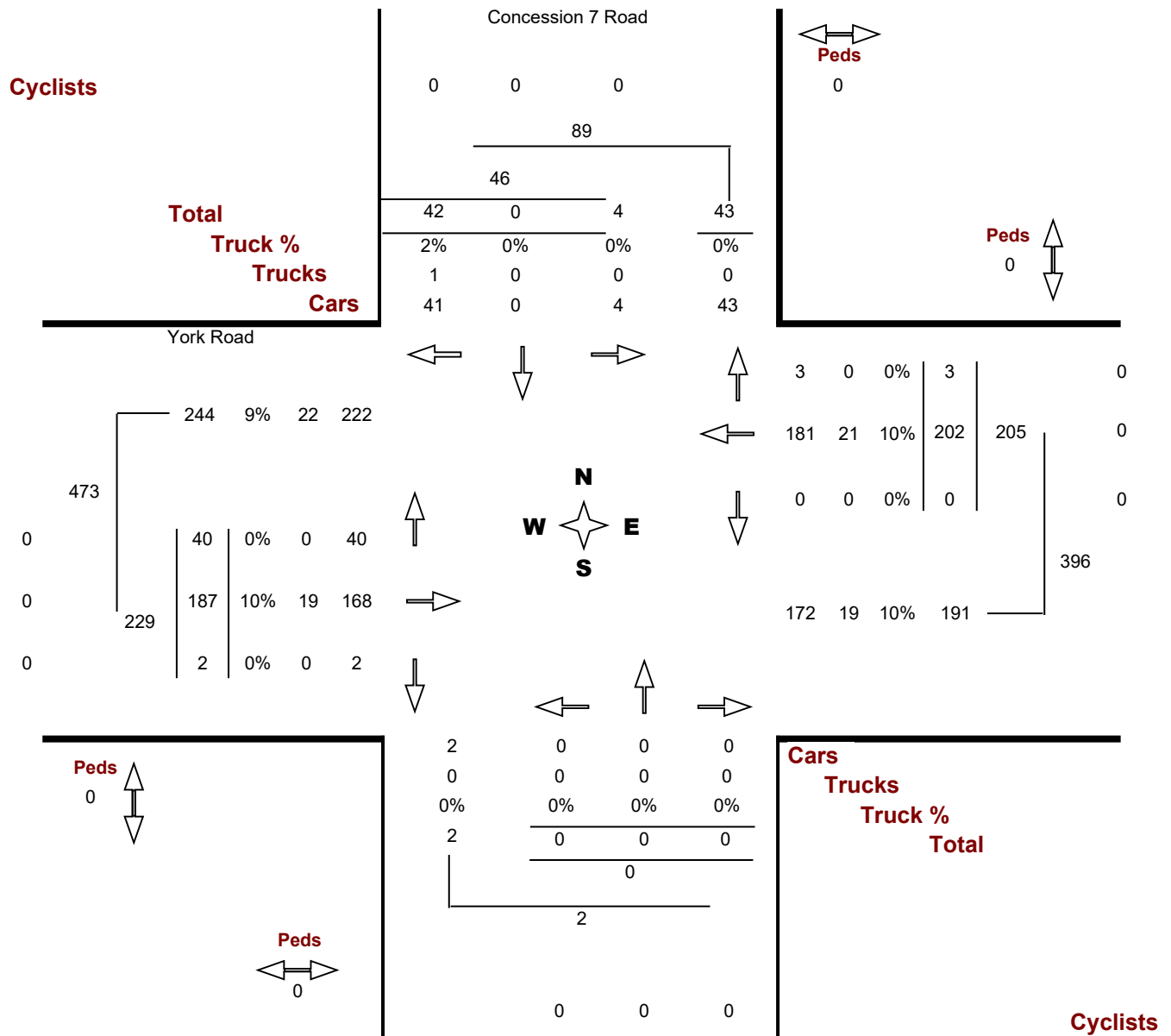
Count Date. Monday, 23 August, 2010

Traffic Cont.

Count Time. 07:00 AM — 09:00 AM

Major Dir..... East west

Peak Hour.. 08:00 AM — 09:00 AM



Location..... Concession 7 Road @ York Road

GeoID..... 00905

Municipality. NIAGARA-ON-THE-LAKE

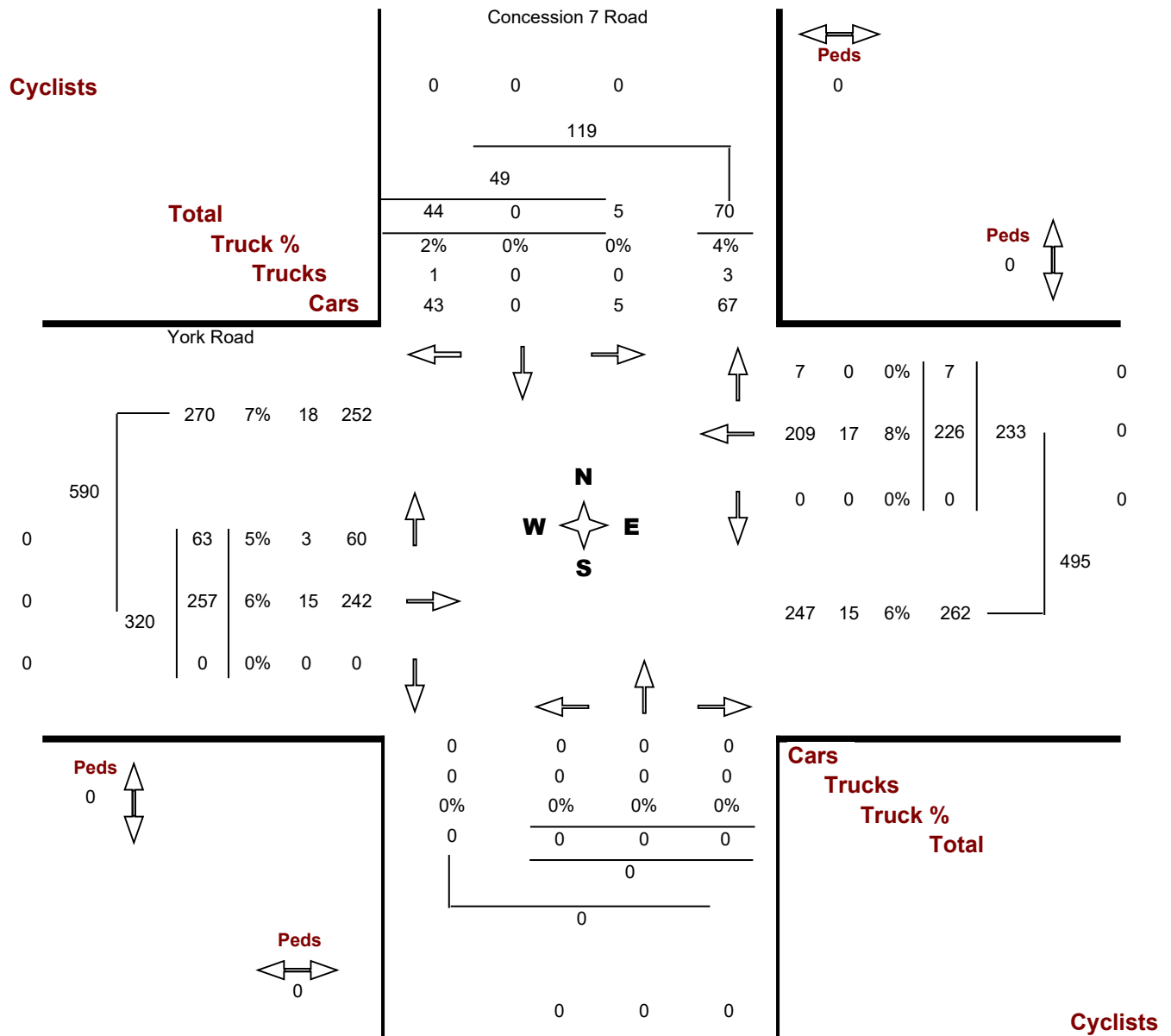
Count Date. Monday, 23 August, 2010

Traffic Cont.

Count Time. 03:00 PM — 06:00 PM

Major Dir..... East west

Peak Hour.. 04:30 PM — 05:30 PM

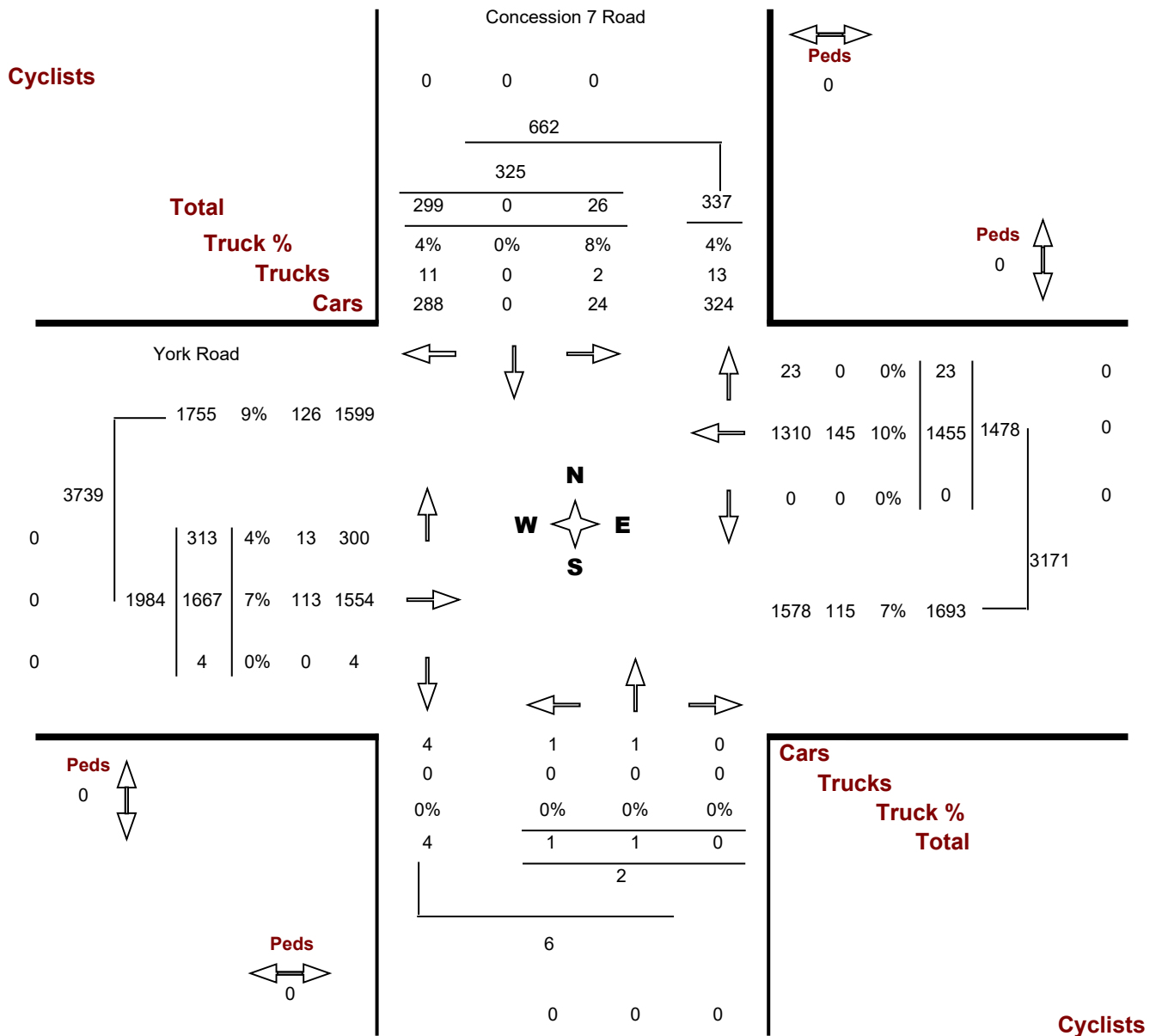


Location..... Concession 7 Road @ York Road

Municipality..... NIAGARA-ON-THE-LAKE

GeoID..... 00905

Count Date..... Monday, 23 August, 2010



Turning Movement Count - Details Report (15 min)

Location..... Concession 7 Road @ York Road

Municipality..... NIAGARA-ON-THE-LAKE

Count Date..... Monday, August 23, 2010

Concession 7 Road

York Road

North Approach

South Approach

East Approach

West Approach

Time Period	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT
07:00 07:15	0	0	6	0	6	0	1	0	0	1	0	28	1	0	29	4	22	0	0	26
07:15 07:30	1	0	5	0	6	0	0	0	0	0	0	36	1	0	37	6	37	0	0	43
07:30 07:45	2	0	4	0	6	0	0	0	0	0	0	44	1	0	45	5	36	0	0	41
07:45 08:00	0	0	5	0	5	0	0	0	0	0	0	36	0	0	36	9	47	0	0	56
Hourly Total	3	0	20	0	23	0	1	0	0	1	0	144	3	0	147	24	142	0	0	166
08:00 08:15	1	0	7	0	8	0	0	0	0	0	0	50	1	0	51	7	52	0	0	59
08:15 08:30	2	0	9	0	11	0	0	0	0	0	0	43	0	0	43	18	35	1	0	54
08:30 08:45	1	0	11	0	12	0	0	0	0	0	0	61	2	0	63	10	48	1	0	59
08:45 09:00	0	0	15	0	15	0	0	0	0	0	0	48	0	0	48	5	52	0	0	57
Hourly Total	4	0	42	0	46	0	0	0	0	0	0	202	3	0	205	40	187	2	0	229
11:00 11:15	1	0	10	0	11	0	0	0	0	0	0	46	0	0	46	5	46	0	0	51
11:15 11:30	1	0	5	0	6	1	0	0	0	1	0	42	1	0	43	6	56	2	0	64
11:30 11:45	2	0	5	0	7	0	0	0	0	0	0	51	0	0	51	4	60	0	0	64
11:45 12:00	1	0	14	0	15	0	0	0	0	0	0	39	0	0	39	9	39	0	0	48
Hourly Total	5	0	34	0	39	1	0	0	0	1	0	178	1	0	179	24	201	2	0	227
12:00 12:15	0	0	8	0	8	0	0	0	0	0	0	52	1	0	53	11	47	0	0	58
12:15 12:30	3	0	6	0	9	0	0	0	0	0	0	47	1	0	48	10	52	0	0	62
12:30 12:45	0	0	11	0	11	0	0	0	0	0	0	53	0	0	53	6	47	0	0	53
12:45 13:00	2	0	9	0	11	0	0	0	0	0	0	51	2	0	53	11	51	0	0	62
Hourly Total	5	0	34	0	39	0	0	0	0	0	0	203	4	0	207	38	197	0	0	235
13:00 13:15	1	0	10	0	11	0	0	0	0	0	0	44	1	0	45	9	57	0	0	66
13:15 13:30	0	0	11	0	11	0	0	0	0	0	0	48	1	0	49	9	46	0	0	55
13:30 13:45	0	0	6	0	6	0	0	0	0	0	0	35	0	0	35	3	71	0	0	74
13:45 14:00	0	0	3	0	3	0	0	0	0	0	0	48	2	0	50	4	50	0	0	54
Hourly Total	1	0	30	0	31	0	0	0	0	0	0	175	4	0	179	25	224	0	0	249
15:00 15:15	1	0	6	0	7	0	0	0	0	0	0	39	1	0	40	10	51	0	0	61
15:15 15:30	0	0	14	0	14	0	0	0	0	0	0	36	0	0	36	9	51	0	0	60
15:30 15:45	0	0	8	0	8	0	0	0	0	0	0	45	0	0	45	15	49	0	0	64
15:45 16:00	0	0	13	0	13	0	0	0	0	0	0	42	0	0	42	9	62	0	0	71
Hourly Total	1	0	41	0	42	0	0	0	0	0	0	162	1	0	163	43	213	0	0	256
16:00 16:15	0	0	21	0	21	0	0	0	0	0	0	46	0	0	46	11	66	0	0	77

Concession 7 Road

York Road

Time Period	North Approach					South Approach					East Approach					West Approach				
	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT
16:15 16:30	0	0	10	0	10	0	0	0	0	0	0	41	0	0	41	17	65	0	0	82
16:30 16:45	0	0	15	0	15	0	0	0	0	0	0	48	2	0	50	9	68	0	0	77
16:45 17:00	3	0	9	0	12	0	0	0	0	0	0	64	0	0	64	19	56	0	0	75
Hourly Total	3	0	55	0	58	0	0	0	0	0	0	199	2	0	201	56	255	0	0	311
17:00 17:15	2	0	9	0	11	0	0	0	0	0	0	53	1	0	54	15	68	0	0	83
17:15 17:30	0	0	11	0	11	0	0	0	0	0	0	61	4	0	65	20	65	0	0	85
17:30 17:45	0	0	9	0	9	0	0	0	0	0	0	42	0	0	42	16	56	0	0	72
17:45 18:00	2	0	14	0	16	0	0	0	0	0	0	36	0	0	36	12	59	0	0	71
Hourly Total	4	0	43	0	47	0	0	0	0	0	0	192	5	0	197	63	248	0	0	311
Grand Total	26	0	299	0	325	1	1	0	0	2	0	1455	23	0	1478	313	1667	4	0	1984
Truck %	8%	0%	4%	0%	4%	0%	0%	0%	0%	0%	0%	10%	0%	0%	10%	4%	7%	0%	0%	6%

Appendix B

STAMSON Output



NOISE



VIBRATION



ACOUSTICS

-90 90 0.57 57.03 0.00 -2.29 -1.30 0.00 0.00 0.00
53.44

Segment Leq : 53.44 dBA

Total Leq All Segments: 53.44 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 59.48

(NIGHT): 53.44 (adjusted due to less than 40
vehicles per hour during the nighttime hours. Results is less than 50 dBA
at night.)

Appendix C

Region Comments and HGC Engineering's Responses



NOISE



VIBRATION



ACOUSTICS

Niagara on the Lake

Comments dated November 21, 2024

Noise Impacts

- The proposed development is subject to stationary noise associated with the kitchen manufacturing operation located at the northwest corner of Concession 7 Road and York Road.
- A Noise Feasibility Study (prepared by HCG Engineering; dated April 1, 2022) was submitted with previous applications for the Modero Estates Subdivision. The Study stated that sufficient distance setback from the dust collector at the kitchen manufacturing operation should be considered in the design of the future site plan to ensure sound levels from this collector meet MECP noise guidelines.
- Given its proximity to the kitchen manufacturing operation, staff request an Updated Noise Study specifically for the development proposed at Block 84 to confirm sound levels in rear yards of the residential units and ensure that appropriate mitigation measures are implemented and MECP noise guidelines are met.

Responses to Region of Niagara's Comments dated August 25, 2022

HGC Engineering's responses are included below the comment in green.

Noise Impacts

The subject lands are located to the north of a kitchen manufacturing operation. PPS Policy 1.2.6.1 states that major facilities (including manufacturing uses and industries) and sensitive land uses are to be planned to "ensure they are appropriately designed, buffered and/or separated from each other to prevent or mitigate adverse effects from odour, noise and other contaminants, minimize risk to public health and safety...". To implement this policy, the MECP Noise Guidelines (NPC-300) shall be applied in the land use planning process to prevent or minimize future land use problems.

Noted. HGC Engineering has measured the noise source associated with a kitchen business to the south and provided appropriate mitigation at the proposed residential development since the business was not open to mitigation at their site.

At the pre-consultation meeting, Regional staff required the submission of a Noise Study to assess potential stationary noise sources and identify any mitigation that may be required for the adjacent residential uses. A Noise Feasibility Study (prepared by HGC Engineering, dated April 1, 2022) was submitted with the applications. The Study indicates that its purpose was "to determine the impact of environmental noise from the surrounding roadways on the proposed site;" however, the Study also evaluated stationary noise sources from an adjacent industrial use (kitchen manufacturer, located along York Road).

Noted.

The Noise Feasibility Study indicates that future traffic levels will exceed Ministry of the Environment, Conservation and Parks (MECP) guidelines (NPC-300) at the dwellings fronting onto and with direct exposure to Concession 7 Road. This would impact Blocks 85, 86 and 87. It is recommended that future dwelling units be equipped with a forced air ventilation system with ducts sized to accommodate the future installation of air conditioning by the occupant. Warning clauses are also recommended for these Blocks. Exterior wall and double-glazed windows meeting the minimum requirements of the Ontario Building Code (OBC) will provide adequate insulation for the dwelling units.

Noted.

When siting information is available, the sound levels in any rear yards near Concession 7 (within Blocks 85, 86 and 87) should be confirmed, as well as the acoustic requirements for Block 87 due to its proximity to the kitchen manufacturing operation along York Road. The Study states that sufficient distance setback from the dust collector at the kitchen manufacturing operation should be considered in the design of the future site plan such that sound levels from this collector meet MECP noise guidelines. The Study also indicates that alternatives to address noise from the dust collector include mitigation of the dust collector itself in the form of a silencer, quieter model, sufficient distance setback, intervening buffer area in the form of parking,

landscaped areas or architectural design of the dwellings, a noise barrier or restrictions on the height of the dwellings may also be considered.

Noted. Since building envelopes are indicated on the latest concept site plan, the noise study has been updated to reflect a more detailed site plan. Block of townhouses requiring mitigation on the residential site have been identified in the updated noise report.

The updated noise study recommends further analysis at the time of detailed design prior to draft plan of condominium approval. This would include a review of architectural drawings to ensure noise is appropriately mitigated at the residential development site. While mitigation options were suggested in the previous noise report, since the kitchen business is not open to mitigation on their site, noise mitigation will be provided in the form of architectural design on the residential site.

Given that some of the alternatives listed will impact the proposed zoning, specifically within the future Residential Multiple RM5-XX Zone, staff note that future amendments to the proposed zoning may be required pending the findings of an updated Noise Feasibility Study.

Noted.

With future Planning Act applications to facilitate development within Blocks 85, 86 and 87, an updated Noise Feasibility Study will be required.

Noted.

Appendix D

Architectural Drawings, Markup Notes and Drawings Indicating Architectural Mitigation Measures



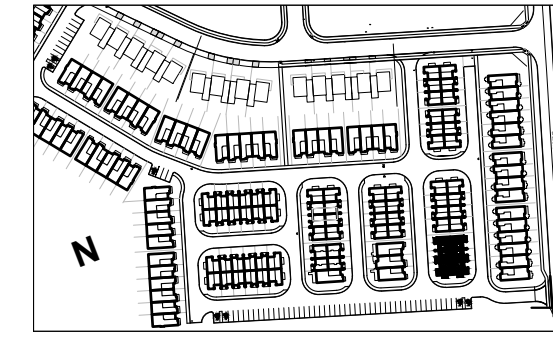
NOISE



VIBRATION



ACOUSTICS



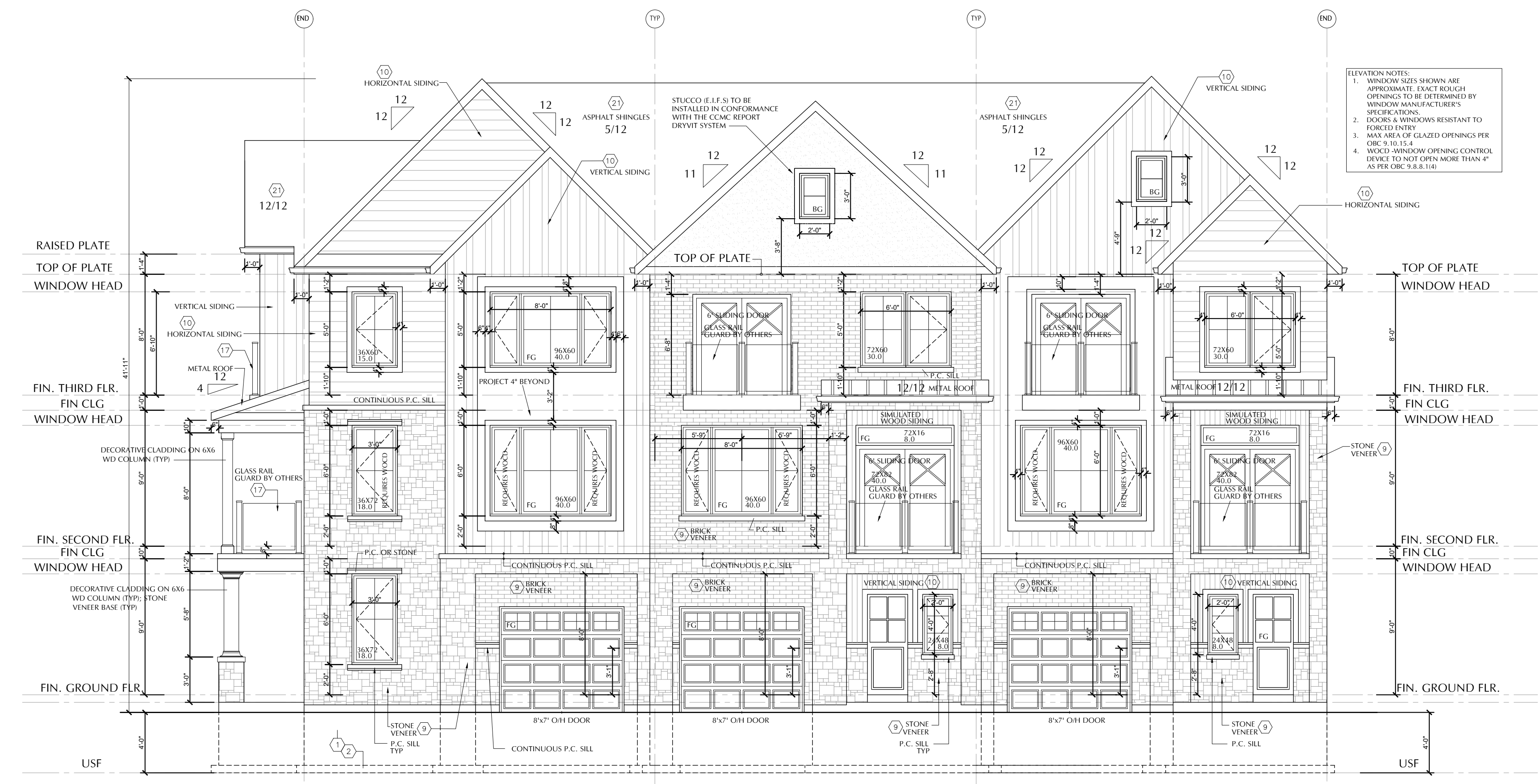
DO NOT SCALE DRAWINGS

NOTE:
1) CONTRACTOR TO CHECK ALL DIMENSIONS, SPECIFICATIONS, ETC ON SITE AND SHALL BE RESPONSIBLE FOR REPORTING ANY DISCREPANCY TO THE ENGINEER AND/OR DESIGNER.
2) THESE PLANS ARE TO REMAIN AND THE PROPERTY OF THE DESIGNER AND MUST BE RETURNED UPON REQUEST. THESE PLANS MUST NOT BE USED IN ANY OTHER LOCATION WITHOUT THE WRITTEN APPROVAL OF THE DESIGNER.
3) ALL WORKS TO BE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE.

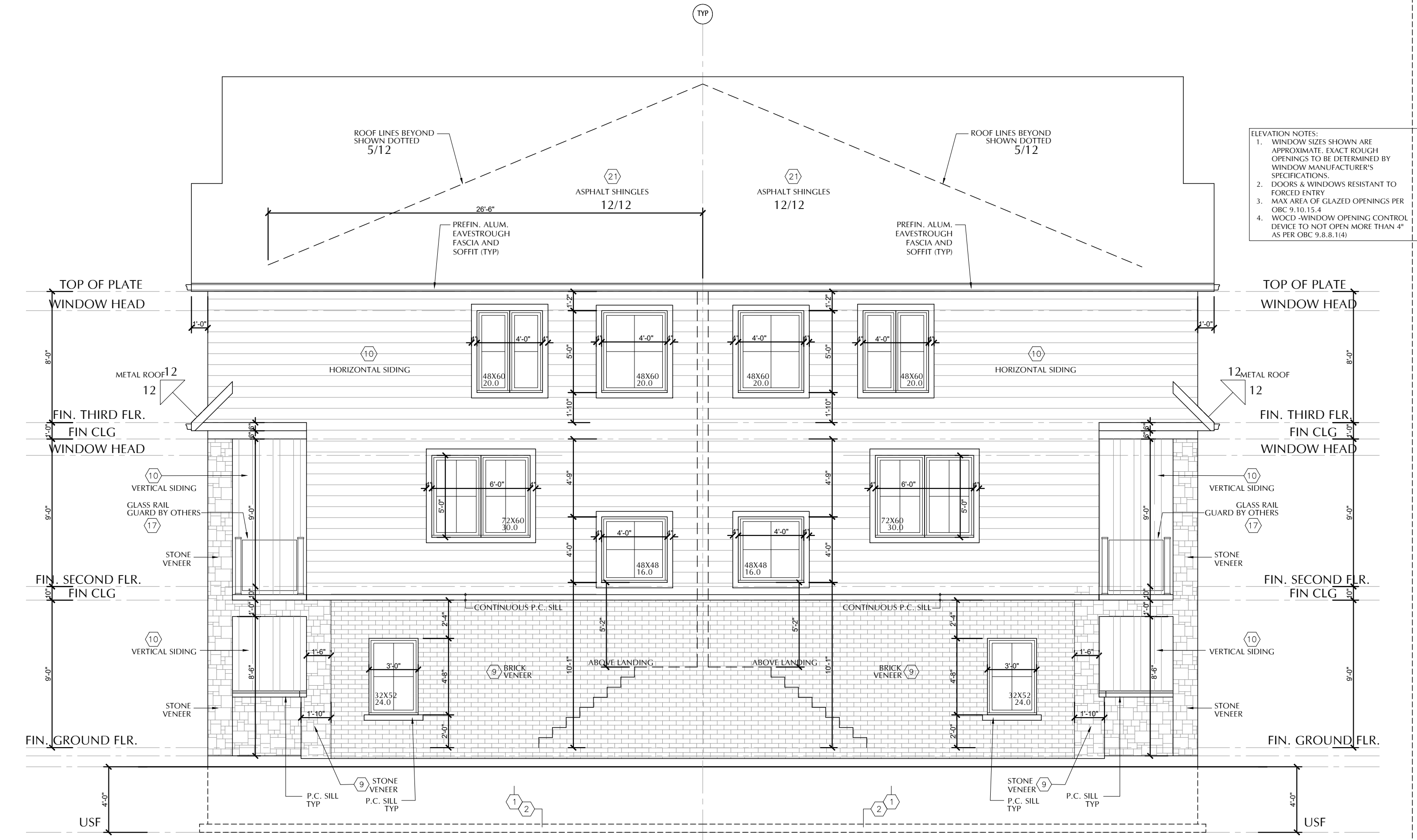
Drawing Submissions:

Date:	Type:
2024.11.30	FOR REVIEW
2024.00.00	XX

.....\Lapponi Design Group\block2.dwg



17 MODEL NAME CORNER
18 MODEL NAME INTERIOR D
19 MODEL NAME END
BLOCK 4 FRONT ELEVATION EAST 3/16"=1'-0"



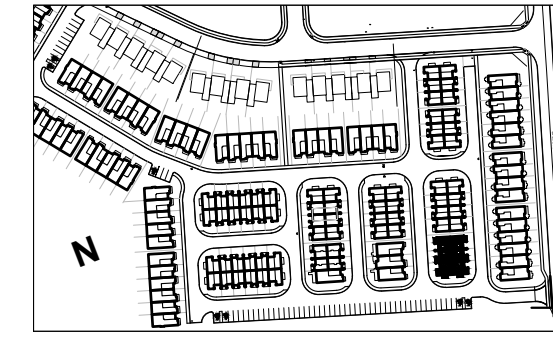
END MODEL NAME 19
END MODEL NAME 40
BLOCK 4 END ELEVATION NORTH 3/16"=1'-0"

units 17-19
units 40-42
BLOCK 4

MODERO
NOTL, ON

REVIEWED BY: JC
DRAWN BY: JC
PLOT DATE: 2025-5-27

ELEVATIONS



DO NOT SCALE DRAWINGS

NOTE:
1) CONTRACTOR TO CHECK ALL DIMENSIONS, SPECIFICATIONS, ETC ON SITE AND SHALL BE RESPONSIBLE FOR REPORTING ANY DISCREPANCY TO THE ENGINEER AND/OR DESIGNER.
2) THESE PLANS ARE TO REMAIN AND THE PROPERTY OF THE DESIGNER AND MUST BE RETURNED UPON REQUEST. THESE PLANS MUST NOT BE USED IN ANY OTHER LOCATION WITHOUT THE WRITTEN APPROVAL OF THE DESIGNER.
3) ALL WORKS TO BE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE.

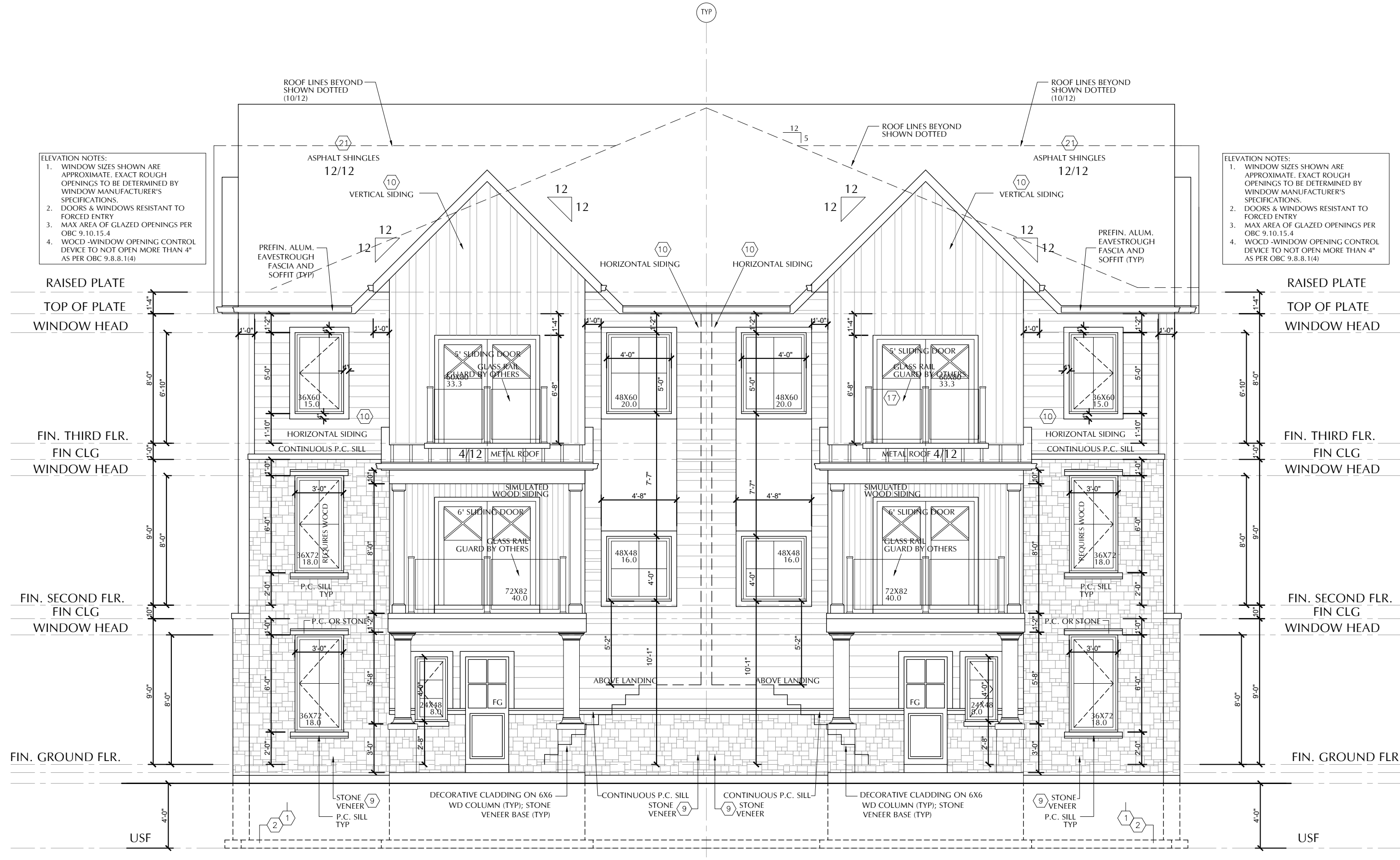
Drawing Submissions:

Date:	Type:
2024.11.30	FOR REVIEW
2024.00.00	XX



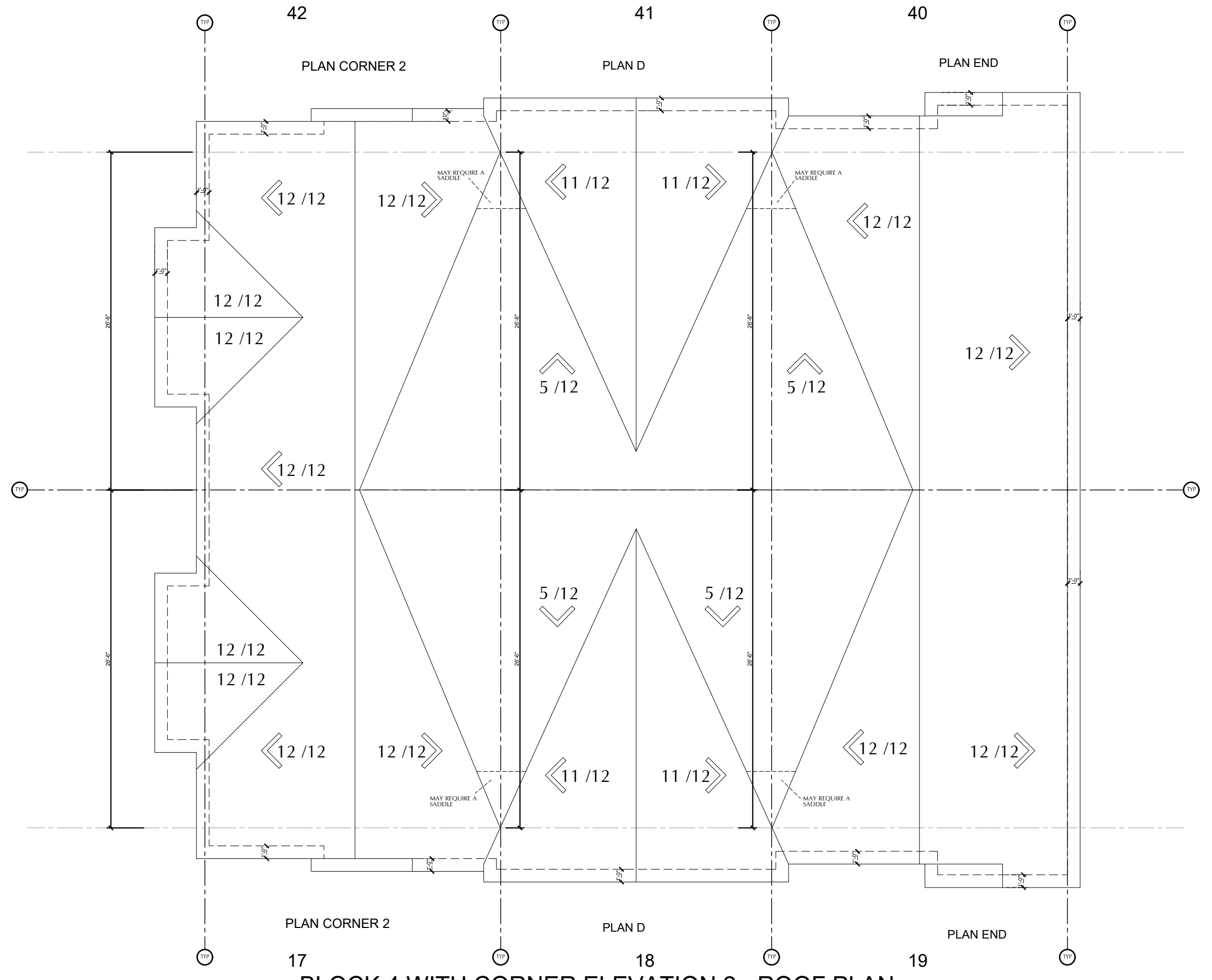
40 MODEL NAME END
41 MODEL NAME INTERIOR D
42 MODEL NAME CORNER

3/16"=1'-0" BLOCK 4 FRONT ELEVATION WEST



42 MODEL NAME CORNER
17 MODEL NAME CORNER

BLOCK 4 CORNER ELEVATION 2 SOUTH 3/16"=1'-0"



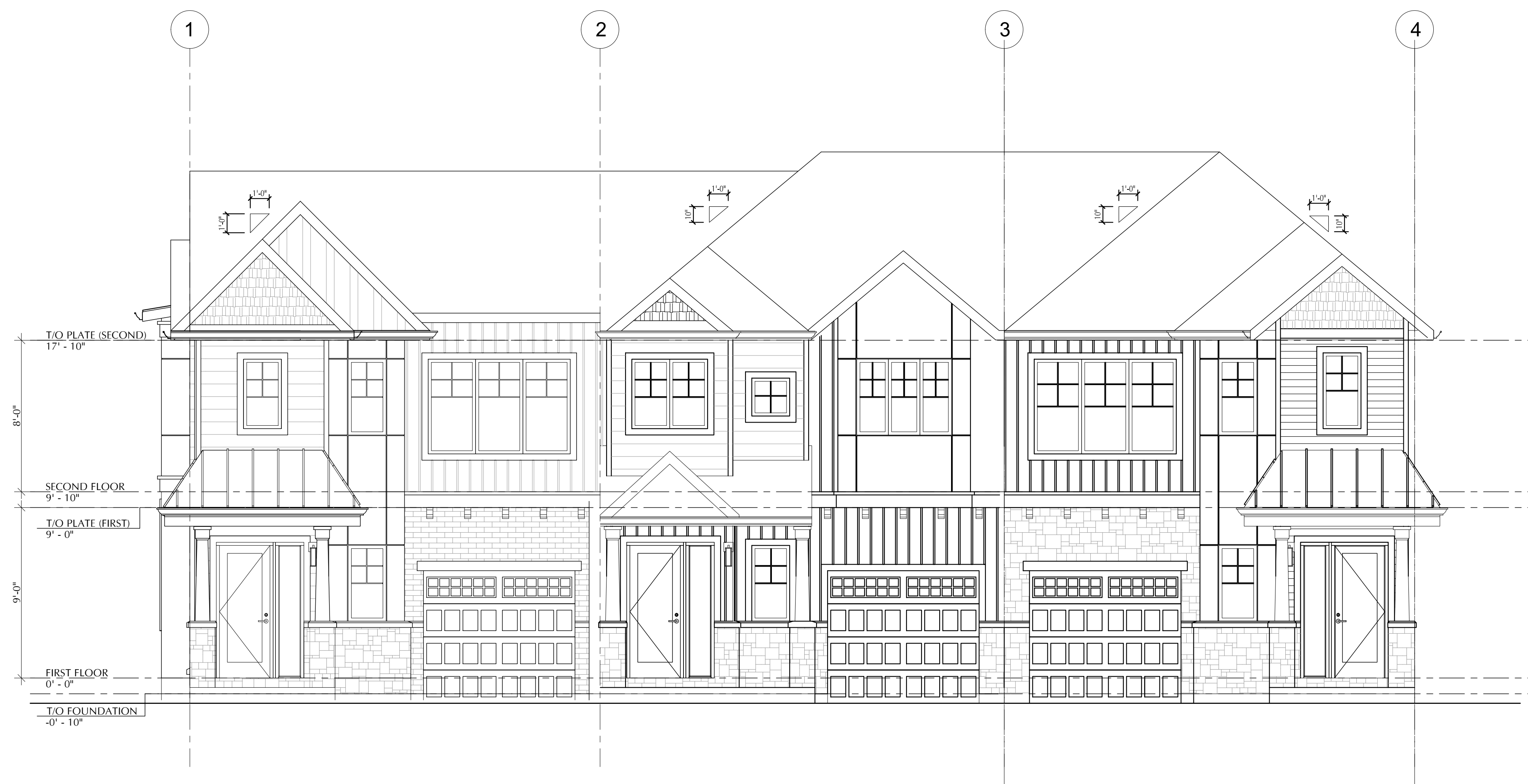
BLOCK 4 WITH CORNER ELEVATION 2 - ROOF PLAN

units 17-19
units 40-42
BLOCK 4

MODERO
NOTL, ON

REVIEWED BY: JC
DRAWN BY: JC
PLOT DATE: 2025-5-27

**ELEVATIONS
ROOF PLAN**



MODERO, SOUND MITIGATION 2
FRONT ELEVATION

43

44

45

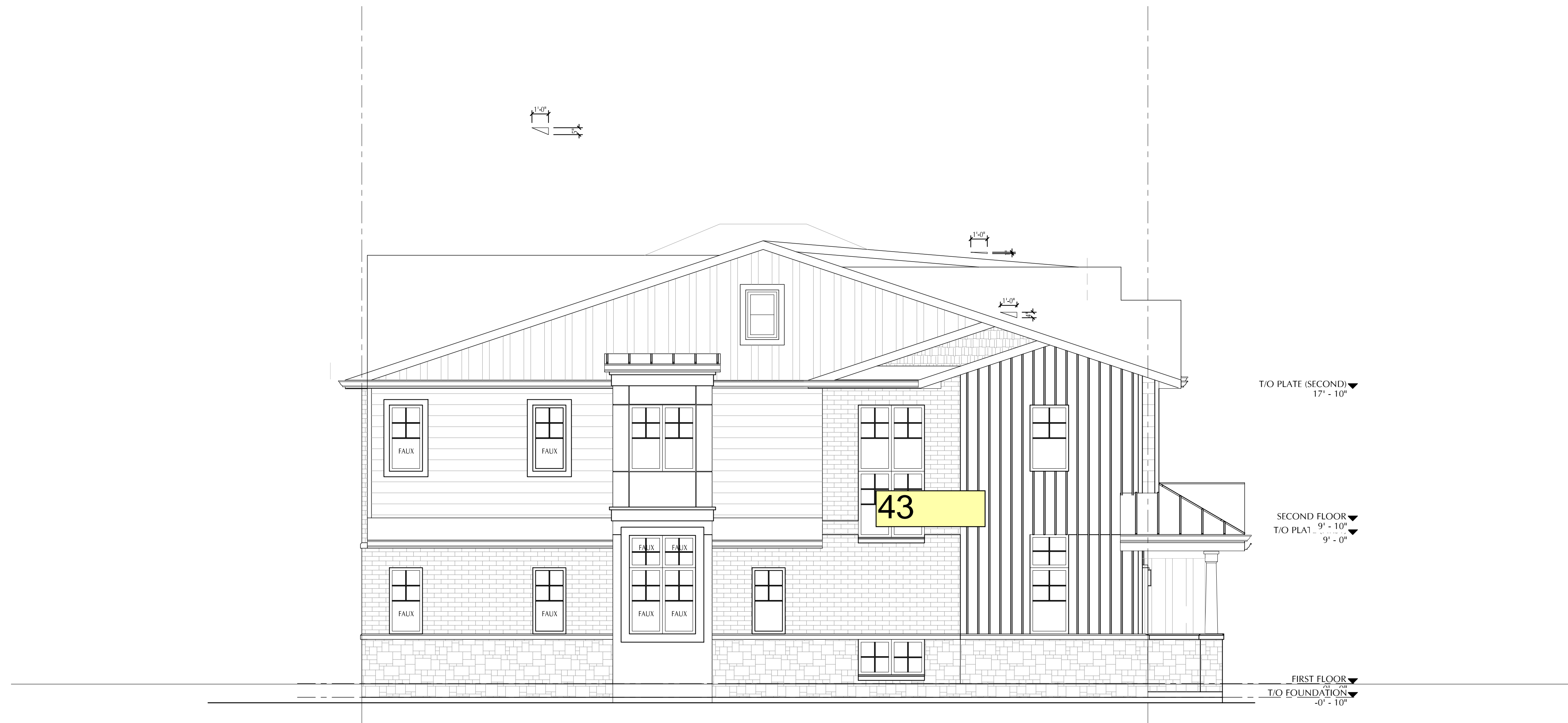


MODERO, SOUND MITIGATION 2
REAR ELEVATION

45

44

43



MODERO, SOUND MITIGATION 2
SIDE ELEVATION (CORNER)

43



MODERO, SOUND MITIGATION 1
FRONT ELEVATION

54

55

56



MODERO, SOUND MITIGATION 1
SIDE ELEVATION (CORNER)



MODERO, SOUND MITIGATION 1
REAR ELEVATION

65

66

54

ZONING MATRIX		
PROVISION	ZONING (RM5-16b)	PROVIDED
MULTIPLE DWELLING		
MIN. LOT FRONTAGE	130.0m	132.59m
MIN. LOT AREA	33'700m ²	33'736.86m ²
MIN. FRONT YARD	3.5m (DWELLING) 6.0m (GARAGE)	3.55m (DWELLING) 6.09m (GARAGE)
MIN. EXTERIOR SIDE YARD	3.0m	4.57m
MIN. REAR YARD	7.0m	7.02m
MAX. BUILDING HEIGHT	12.0m	12.0m (14.5m FOR B2B)
MIN. LANDSCAPED OPEN SPACE	25%	34.71%
MAX. LOT COVERAGE	50%	33.13%
MIN. DWELLING FLOOR AREA	93m ²	93m ²
MAX. GARAGE DOOR WIDTH	N/A	N/A
MIN. AMENITY AREA PER UNIT (m ²) (B2B)	4m ²	4m ²
FOOTNOTES TO TABLE 11-3	RM5-16(b) INTERIOR SIDE YD	PROVISION
BUILDING FRONT	4m	N/A
BUILDING END WALL	1.5m	2.62m
BUILDING PRIVACY YARD	7m	7.08m
MIN. DWELLING CORNER FROM PRIVATE RD ON CURVED/CORNER LOT	2.75m	2.75m
PARKING PROVISION	REQUIRED	PROVIDED
MIN. PARKING SPACES (2/UNIT)	292	356
MIN. PARKING SPACE DIMENSIONS	2.75m X 6m	2.75m X 6m
MIN. ACCESSIBLE SPACE	7	7
MIN. ACCESSIBLE SPACE DIMENSIONS W/OUT ADJACENT 1.5m ACCESS AISLE	3.7m X 6m	3.7m X 6m
MIN. ACCESSIBLE SPACE DIMENSIONS W/ADJACENT 1.5m ACCESS AISLE	3.2m X 6m	3.2m X 6m
MINIMUM AISLE WIDTH	6m	6m
MIN. D/W SETBACK FROM EXT. LOT LINE	8m	8m

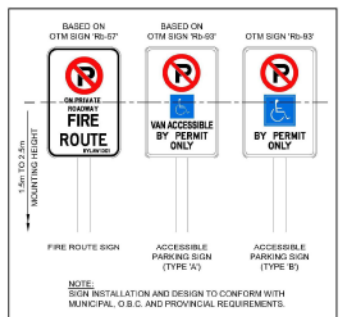
GENERAL PROVISIONS:

1.) AN UNENCLOSED COVERED PORCH WITH OPEN SILES AND/OR BALCONY ABOVE, LOCATED IN THE FRONT OR EXTERIOR SIDE YARD SHALL BE EXCLUDED FROM ANY CALCULATION OF MAXIMUM LOT COVERAGE PROVIDED THE AREA OF THE PORCH DOES NOT EXCEED 5% OF THE TOTAL UNIT AREA FOR INTERIOR UNITS AND 10% OF THE TOTAL UNIT AREA FOR CORNER UNITS. SUCH PORCH MAY ENCRUSH INTO THE FRONT AND/OR EXTERIOR SIDE YARD A MAXIMUM OF 1.5m PROVIDED THE PORCH FLOOR LEVEL IS NO MORE THAN 1.27m ABOVE GRADE.

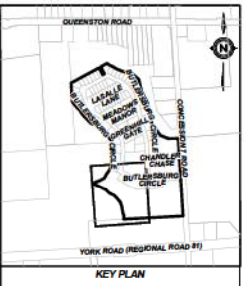
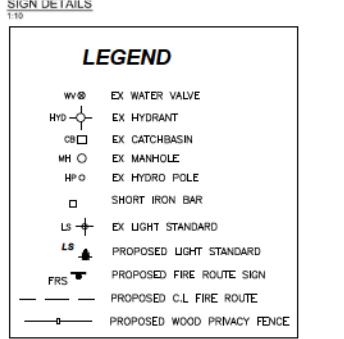
2.) THE FRONT LINE SHALL BE DEEMED THE FRONTAGE ON CONCESSION 7 ROAD.

3.) NOTWITHSTANDING THE CREATION OF LOT LINES OF A CONDOMINIUM, THE LOT FRONTAGE, LOT COVERAGE AND LOT AREA PROVISIONS FOR BLOCK TOWNHOUSES SHALL BE APPLIED TO THE ENTIRETY OF THE LANDS WITHIN AN INDIVIDUAL BLOCK, NOT THE INDIVIDUAL LOTS CREATED THROUGH CONDOMINIUM REGISTRATION.

4.) ALL LOT LINES ADJUTING A PUBLIC STREET, OTHER THAN THE FRONT LOT LINE, SHALL BE DEEMED TO BE AN EXTERIOR LOT LINE.

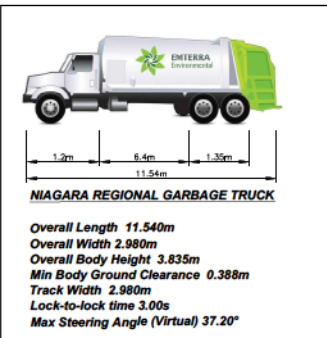


SITE STATISTICS			
AREA	ha	% COVERAGE	
BUILDING (Includes covered deck)	1.118	33.13	
ROAD/DRIVEWAY/PARKING	1.085	32.16	
LANDSCAPING	1.171	34.71	
TOTAL	3.374	100.00	
UNITS			
DEVELOPABLE AREA	4.374ha	146	
DENSITY (UNITS/DEVELOPABLE AREA)	43.27u/ha		



LEGAL DESCRIPTION

PART OF TOWNSHIP LOTS 180 & 181 (GEOGRAPHIC TOWNSHIP OF NIAGARA) TOWN OF NIAGARA-ON-THE-LAKE



Public Works Department Approval

NIAGARA REGIONAL GARBAGE TRUCK

Overall Length 11.540m
Overall Width 2.980m
Overall Body Height 3.835m
Min Body Ground Clearance 0.388m
Track Width 2.980m
Lock-to-lock time 3.00s
Max Steering Angle (Virtual) 37.20°

FIRE AND EMERGENCY SERVICES

NIAGARA REGIONAL GARBAGE TRUCK

Overall Length 11.540m
Overall Width 2.980m
Overall Body Height 3.835m
Min Body Ground Clearance 0.388m
Track Width 2.980m
Lock-to-lock time 3.00s
Max Steering Angle (Virtual) 37.20°

NO.	REVISION	DATE	INIT	OWNER
1	REVISED PER TOWN COMMENTS (MARCH 6, 2025)	2025-03-28	BY	
0	ISSUED FOR REVIEW	2025-02-14	TA	
+				

Niagara-on-the-Lake

UPPER CANADA CONSULTANTS
30 Havelock Drive Unit 3
St. Catharines, Ontario
L2W 1A3
Phone: (905)688-9400
Fax: (905)688-5274

MARZ HOMES
200-825 NORTH SERVICE ROAD
HAMILTON, ON
L8E 0J7

MODERO ESTATES CONDO BLOCK 84

TOWN OF NIAGARA-ON-THE-LAKE
SITE PLAN 1

CONSULTANT FILE No. 2130
DATE 2025-03-28
PRINTED 2025-04-15
SCALE 1:300
REF No.
DWG No. 2130-SP1
REV 1

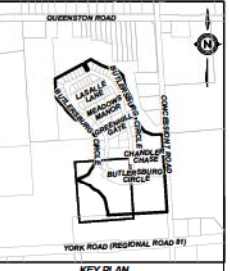
DRAWING FILE: F:\2130\Engineering\2130 84E-SP1.dwg PLOTTED: Apr 15, 2025 - 9:37am PLOTTED BY: bvanadon

Figure 2a - Site Plan 1

REFER TO SHEET 2130-SP1

GENERAL PROVISIONS:

- 1.) AN UNENCLOSED COVERED PORCH WITH OPEN SIDES AND/OR BALCONY ABOVE, LOCATED IN THE FRONT OR EXTERIOR SIDE YARD SHALL BE EXCLUDED FROM ANY CALCULATION OF MAXIMUM LOT COVERAGE PROVIDED THE AREA OF THE PORCH DOES NOT EXCEED 3% OF THE TOTAL UNIT AREA FOR INTERIOR UNITS AND 10% OF THE TOTAL UNIT AREA FOR CORNER UNITS. SUCH PORCH MAY ENDOUR INTO THE FRONT AND/OR EXTERIOR SIDE YARD A MAXIMUM OF 1.5m PROVIDED THE PORCH FLOOR LEVEL IS NO MORE THAN 1.57m ABOVE GRADE.
- 2.) THE FRONT LINE SHALL BE DEEMED THE FRONTAGE ON CONCESSION 7 ROAD.
- 3.) NOTWITHSTANDING THE CREATION OF LOT LINES OF A CONDOMINIUM, THE LOT FRONTAGE, LOT COVERAGE AND LOT AREA PROVISIONS FOR BLOCK TOWNHOMES SHALL BE APPLIED TO THE ENTIRETY OF THE LANDS WITHIN AN INDIVIDUAL BLOCK, NOT THE INDIVIDUAL LOTS CREATED THROUGH CONDOMINIUM REGISTRATION.
- 4.) ALL LOT LINES ABUTTING A PUBLIC STREET, OTHER THAN THE FRONT LOT LINE, SHALL BE DEEMED TO BE AN EXTERIOR LOT LINE.

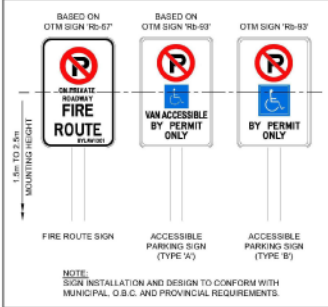
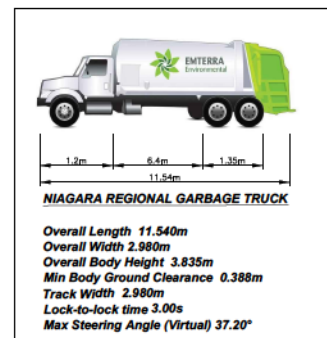


SITE STATISTICS

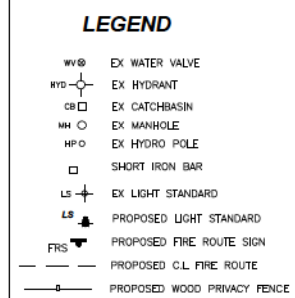
AREA	ha	% COVERAGE
BUILDING (includes covered deck)	1.118	33.13
ROAD/DRIVEWAY/PARKING	1.085	32.16
LANDSCAPING	1.171	34.71
TOTAL	3.374	100.00

UNITS	146
DEVELOPABLE AREA	3.374ha
DENSITY (UNITS/DEVELOPABLE AREA)	43.27u/ha

LEGAL DESCRIPTION
PART OF TOWNSHIP LOTS 180 & 181 (GEOGRAPHIC TOWNSHIP OF NIAGARA) TOWN OF NIAGARA-ON-THE-LAKE



SIGN DETAILS



ZONING MATRIX

PROVISION	ZONING (RM5-16b)	PROVIDED
MULTIPLE DWELLING		
MIN. LOT FRONTAGE	130.0m	132.59m
MIN. LOT AREA	33700m ²	33736.86m ²
MIN. FRONT YARD	3.5m (DWELLING) 6.0m (GARAGE)	3.55m (DWELLING) 6.09m (GARAGE)
MIN. EXTERIOR SIDE YARD	3.0m	4.57m
MIN. REAR YARD	7.0m	7.02m
MAX. BUILDING HEIGHT	12.0m	12.0m (14.5m FOR B2B)
MIN. LANDSCAPED OPEN SPACE	25%	34.71%
MAX. LOT COVERAGE	50%	33.13%
MIN DWELLING FLOOR AREA	93m ²	93m ²
MAX GARAGE DOOR WIDTH	N/A	N/A
MIN AMENITY AREA PER UNIT (m ²) (B2B)	4m ²	4m ²
FOOTNOTES TO TABLE 11-3	RM5-16(b) INTERIOR SIDE YD	PROVISION
BUILDING FRONT	4m	N/A
BUILDING END WALL	1.5m	2.62m
BUILDING PRIVACY YARD	7m	7.08m
MIN DWELLING CORNER FROM PRIVATE RD ON CURVED/CORNER LOT	2.75m	2.75m
PARKING PROVISION	REQUIRED	PROVIDED
MIN PARKING SPACES (2/UNIT)	292	356
MIN PARKING SPACE DIMENSIONS	2.75m X 6m	2.75m X 6m
MIN ACCESSIBLE SPACE	7	7
MIN ACCESSIBLE SPACE DIMENSIONS W/OUT ADJACENT 1.5m ACCESS AISLE	3.7m X 6m	3.7m X 6m
MIN ACCESSIBLE SPACE DIMENSIONS W/ADJACENT 1.5m ACCESS AISLE	3.2m X 6m	3.2m X 6m
MINIMUM AISLE WIDTH	6m	6m
MIN D/W SETBACK FROM EXT LOT LINE	6m	6m



Niagara-on-the-Lake

PUBLIC WORKS DEPARTMENT APPROVAL

SIGNATURE: JEFF VYSE, MANAGER OF PUBLIC WORKS
DATE: _____

FIRE AND EMERGENCY SERVICES

SIGNATURE: ALEX BURBIDGE, FIRE CHIEF
DATE: _____

Niagara-on-the-Lake

UPPER CANADA CONSULTANTS
OWNER / PLANNER

30 Mainwood Drive Unit 3
St. Catharines, Ontario
L2W 1A3
Phone: (905) 688-9400
Fax: (905) 688-5274

MARZ HOMES
200-825 NORTH SERVICE ROAD
HAMILTON, ON
L8E 0J7

MODERO ESTATES CONDO BLOCK 84

TOWN OF NIAGARA-ON-THE-LAKE
SITE PLAN 2

DRAFTING	EV
DESIGN	MH
CHECKED BY	MH
APPROVED BY	AK

REVISION	DATE	INIT
0	2025-03-28	EV
1	2025-02-14	TA

OWNER: MARZ HOMES

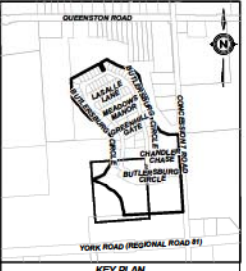
CONSULTANT FILE No. 2130
DATE: 2025-03-28
PRINTED: 2025-04-15
SCALE: 1:300
REF No. _____
DWG No. 2130-SP2
REV 1

Figure 2b - Site Plan 2

REFER TO SHEET 2130-SP1

GENERAL PROVISIONS:

- 1.) AN UNENCLOSED COVERED PORCH WITH OPEN SIDES AND/OR BALCONY ABOVE, LOCATED IN THE FRONT OR EXTERIOR SIDE YARD SHALL BE EXCLUDED FROM ANY CALCULATION OF MAXIMUM LOT COVERAGE PROVIDED THE AREA OF THE PORCH DOES NOT EXCEED 3% OF THE TOTAL UNIT AREA FOR INTERIOR UNITS AND 10% OF THE TOTAL UNIT AREA FOR CORNER UNITS. SUCH PORCH MAY ENCRoACH INTO THE FRONT AND/OR EXTERIOR SIDE YARD A MAXIMUM OF 1.5m PROVIDED THE PORCH FLOOR LEVEL IS NO MORE THAN 1.87m ABOVE GRADE.
- 2.) THE FRONT LINE SHALL BE DEEMED THE FRONTAGE ON CONCESSION 7 ROAD.
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SITE STATISTICS

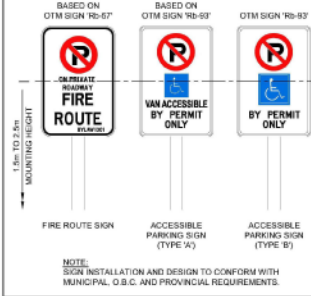
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LANDSCAPING	1.171	34.71
TOTAL	3.374	100.00

UNITS	146
DEVELOPABLE AREA	3.374ha
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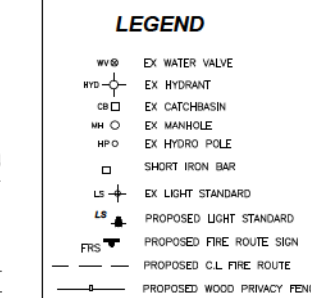
LEGAL DESCRIPTION
PART OF TOWNSHIP LOTS 180 & 181 (GEOGRAPHIC TOWNSHIP OF NIAGARA) TOWN OF NIAGARA-ON-THE-LAKE

ZONING MATRIX

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NOTE: SIGN INSTALLATION AND DESIGN TO CONFORM WITH MUNICIPAL, O.B.C. AND PROVINCIAL REQUIREMENTS.



Forced air ventilation

[A]

[B]

Niagara-on-the-Lake

PUBLIC WORKS DEPARTMENT APPROVAL

SIGNATURE: JEFF VYSE, DATE: _____, POSITION: MANAGER OF PUBLIC WORKS

SIGNATURE: ALEX BURBIDGE, DATE: _____, POSITION: FIRE CHIEF

Niagara-on-the-Lake

UPPER CANADA CONSULTANTS

30 Mainwood Drive Unit 3, St. Catharines, Ontario L2W 1A3
Phone: (905) 688-9400, Fax: (905) 688-5274

MODERO ESTATES CONDO BLOCK 84

TOWN OF NIAGARA-ON-THE-LAKE
SITE PLAN 2

MARZ HOMES

200-825 NORTH SERVICE ROAD, HAMILTON, ON L9E 0J7

OWNER

CONSULTANT FILE No. 2130
DATE: 2025-03-28
PRINTED: 2025-04-15
SCALE: 1:300
REF No. _____
DWG No. **2130-SP2**
REV **1**

Figure 3 - Site Plan 2 Showing Ventilation Requirements

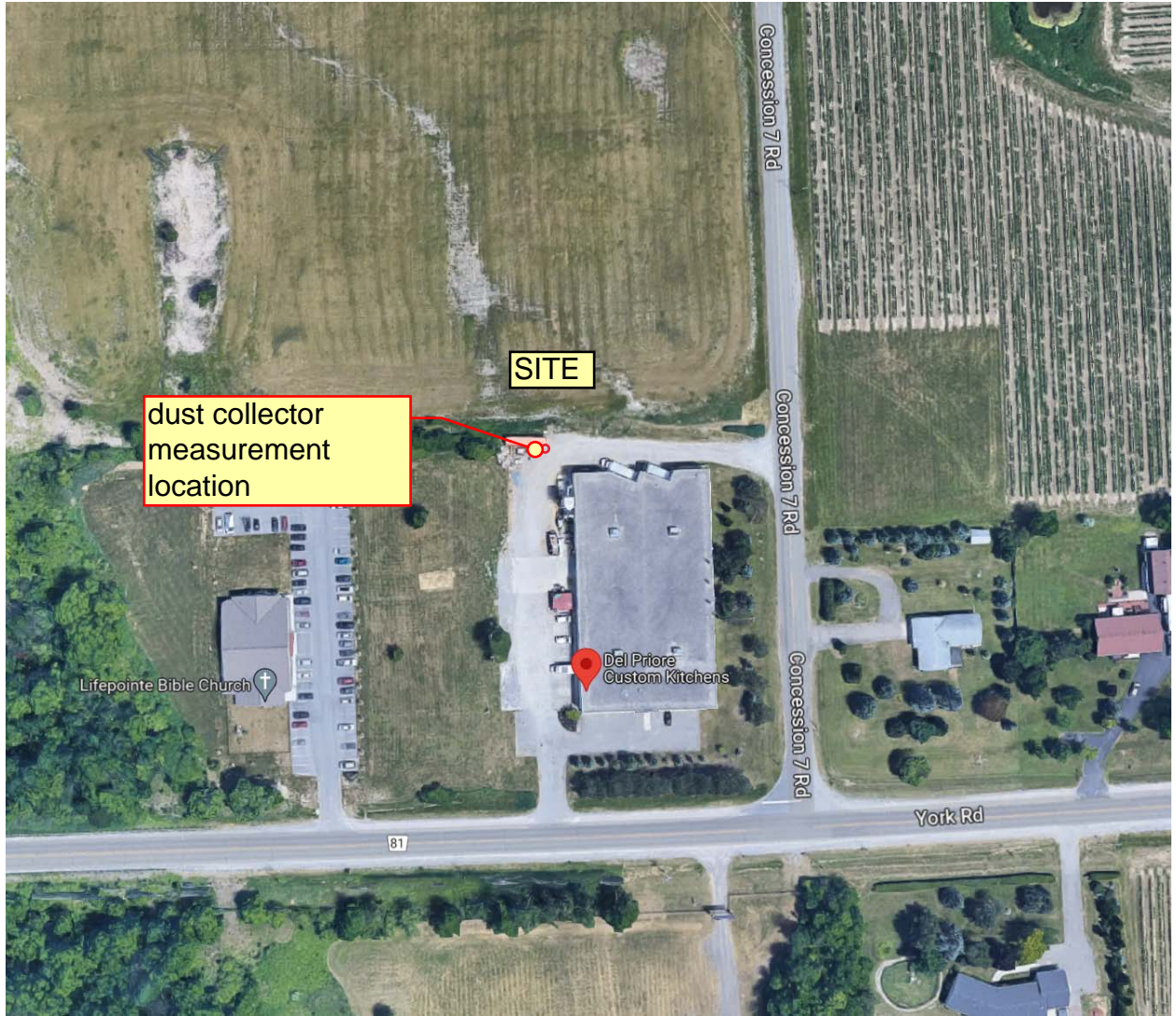


Figure 4 - Dust Collector Measurement Location

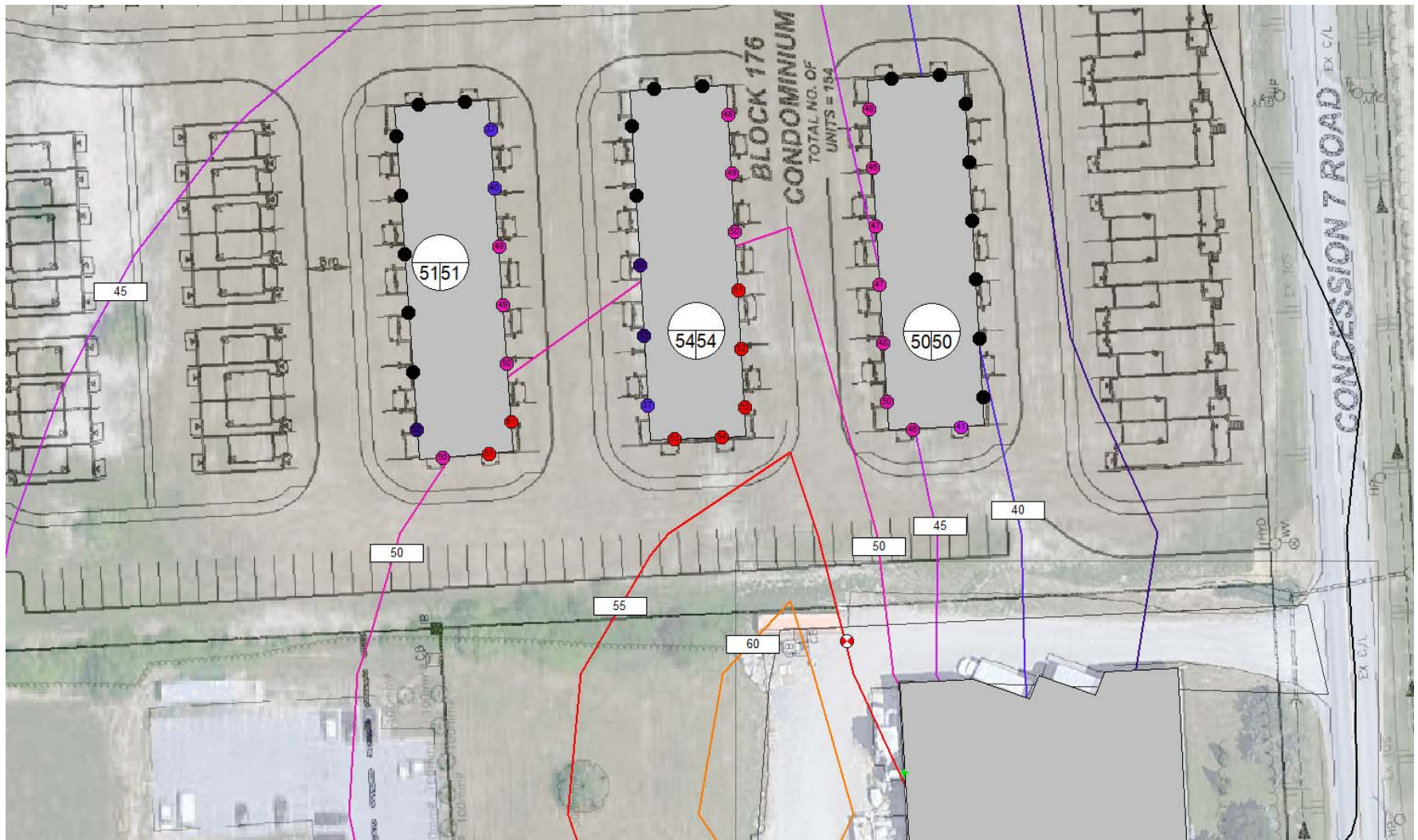
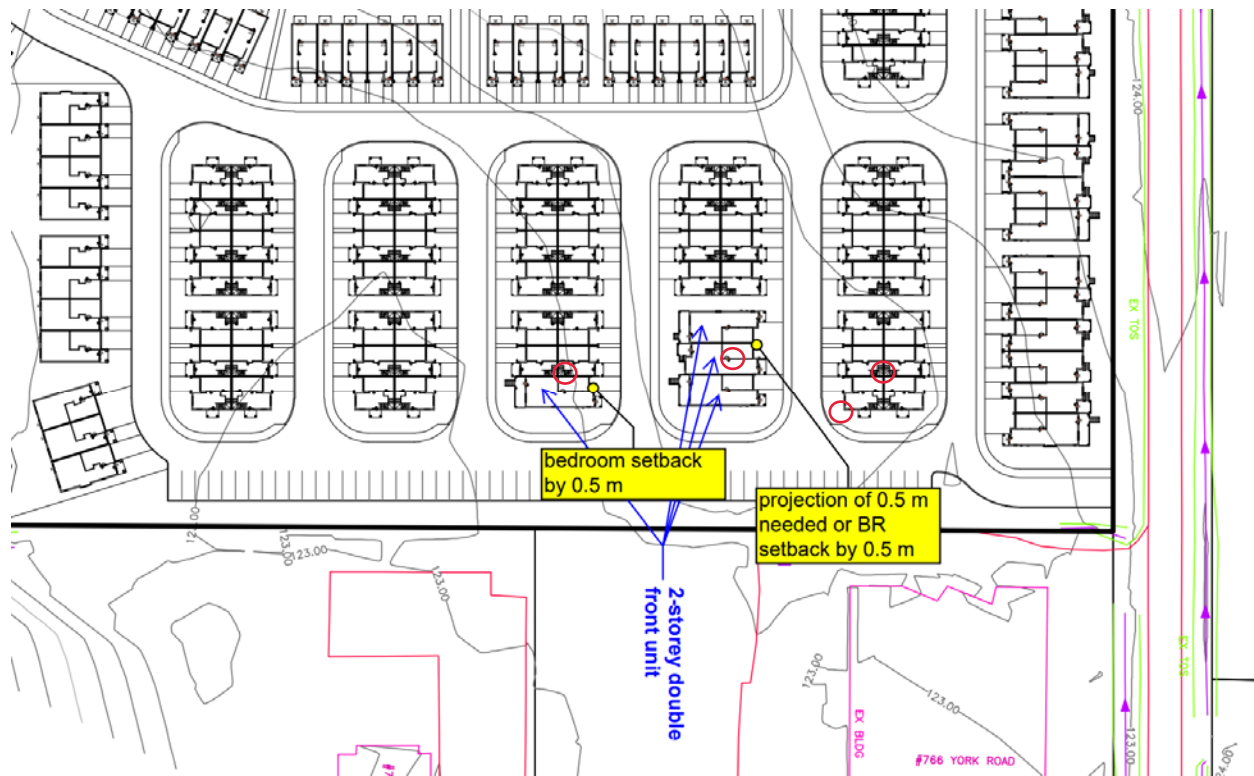


Figure 6 - Daytime Sound Levels at the Proposed Development



Specific Noise Recommendations

- No windows to sensitive spaces such as living/dining/bedrooms/dens on south side of blocks indicated ○
- Some second floor bedroom windows may need to setback and/or a projection may be used to shield the windows
- When detailed architectural drawings are available for the blocks identified at the south end of the site, further analysis is required at the time of detailed design prior to draft plan of condominium approval, to review the drawings and further refine noise mitigation as needed.

Figure 6 - Townhouse Blocks Requiring Mitigation Measures in the form of Architectural Design of Dwellings